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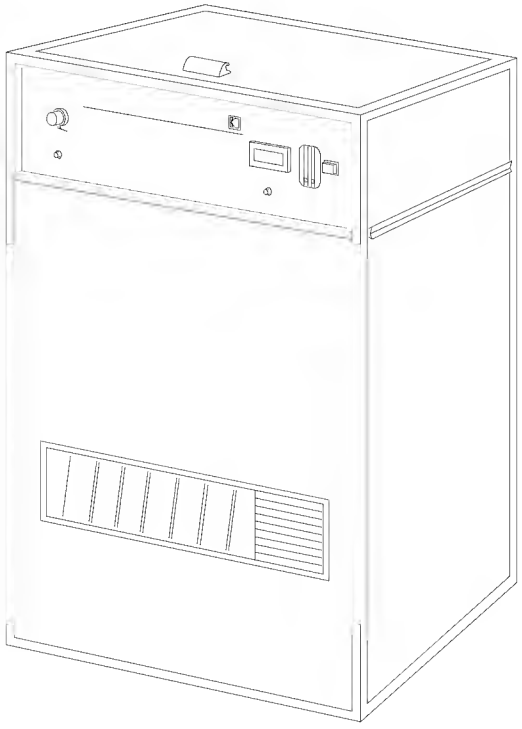
September 1991

INSTALLATION INSTRUCTIONS

for the

Kodak RP X-OMAT Processor, Model M6B



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PLEASE NOTE

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CAUTION

This equipment includes parts and assemblies sensitive to damage from electrostatic discharge. Use caution to prevent damage during all service procedures.

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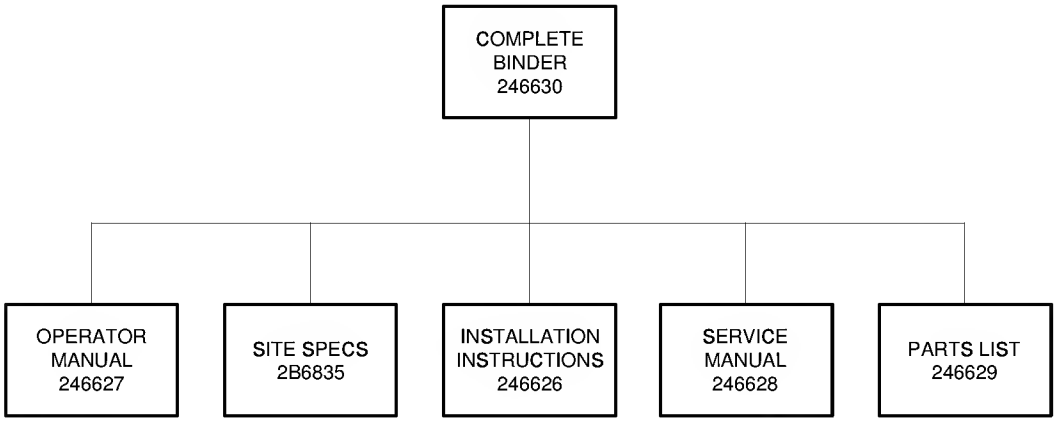
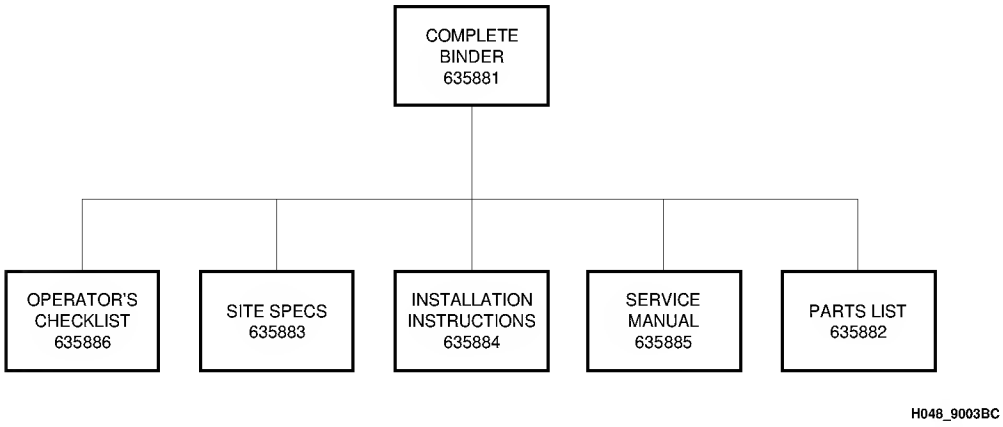
Introduction

This publication is part of a series of instruction books that provides technical support information on the KODAK *RP* X-OMAT Processor, Model M6B. For ease of referencing and reordering the related publications, the following chart provides part numbers for each of the X-Omat M6B publications.

Related Publications



M6B Publications for Processors Having a Serial Number of 15,000 or Above.



M6B Publications for Processors Having a Serial Number Below 15,000.

It is recommended that these publications be kept in the binder provided. If an individual document gets misplaced or destroyed, reorder a copy from your Eastman Kodak Representative.

Use qualified personnel to install the processor.

Special Tools

- Carpenter's Level - approximately 12 in. Available as TL-1434.

Unpacking the Processor

CAUTION

If you are unpacking the processor anywhere other than in the final destination, it is recommended that you keep the internal packing material in place until you move the processor to the actual installation site. If you do unpack the processor somewhere other than the final destination, make sure to install any removed parts and pack any loose parts carefully with the processor for transport.

CAUTION

Make sure that the processor is always upright during transport, storage, and installation.

Removing the Packing Material

[1] Cut the METAL BANDS around the outside of the SHIPPING CARTON.

CAUTION

The processor is not attached to the shipping skid. Use care when moving the processor.

[2] Remove the SHIPPING CARTON from the processor.

[3] Remove the CARDBOARD from the top of the processor.

[4] Remove the TOP COVER from the processor.

[5] Remove the CARDBOARD from between the WASH RACK and the WASH TANK.

[6] Remove:

- DEVELOPER/FIXER CROSSOVER
- FIXER/WASH CROSSOVER
- DETECTOR CROSSOVER
- SQUEEGEE ASSEMBLY.

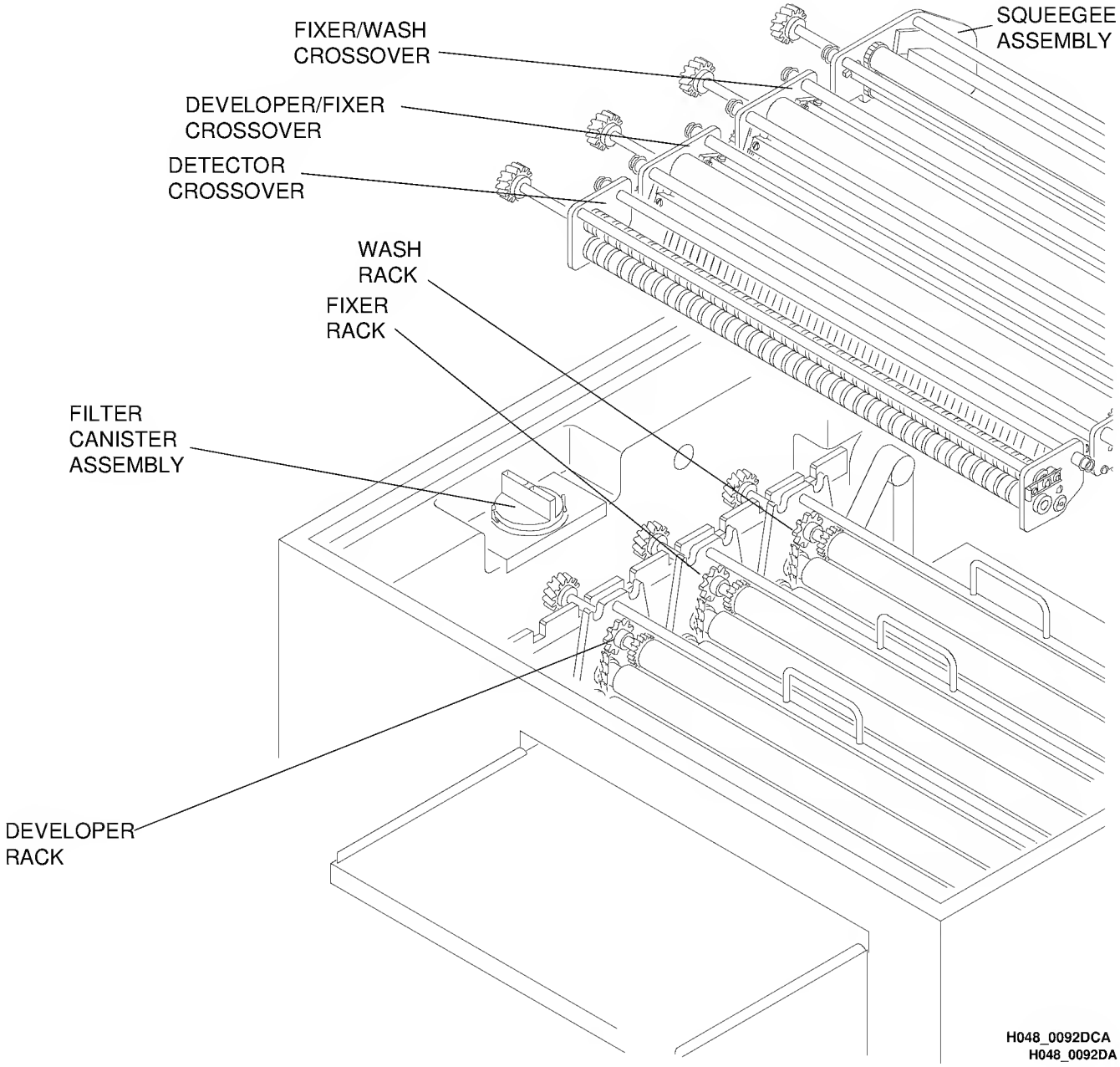


Figure 1 Crossover Identification

[7] Remove the PACKING MATERIAL covering the RACK HANDLES.

[8] Remove:

- DEVELOPER RACK
- FIXER RACK
- WASH RACK
- CARDBOARD from around each RACK.

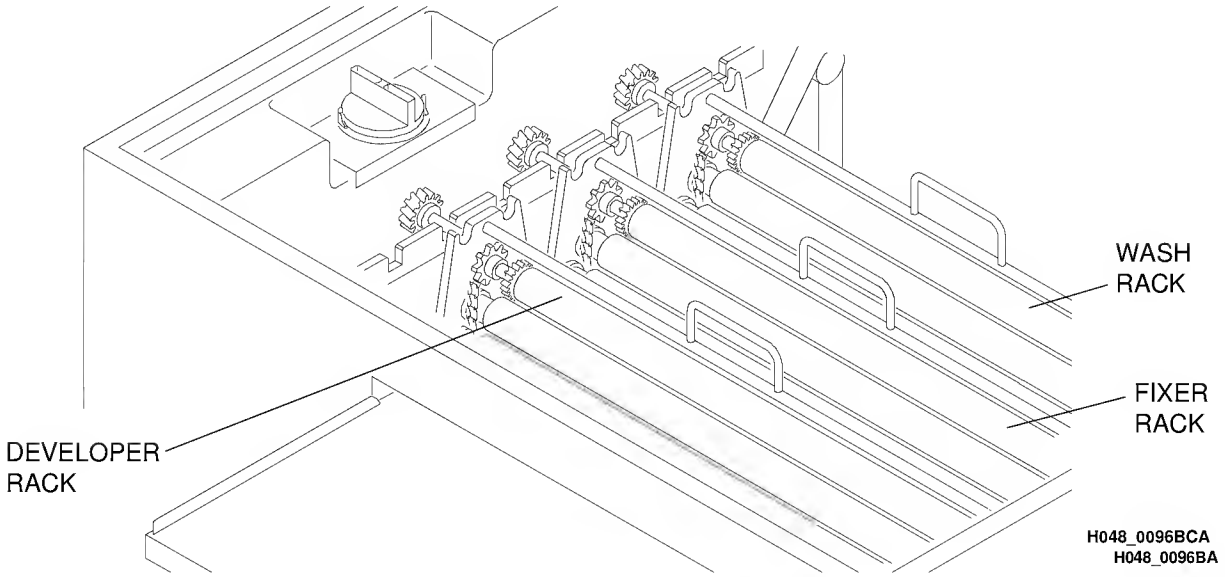


Figure 2 Rack Identification

[9] Remove the CARDBOARD from inside the bottom of the DEVELOPER, FIXER, and WASH TANKS.

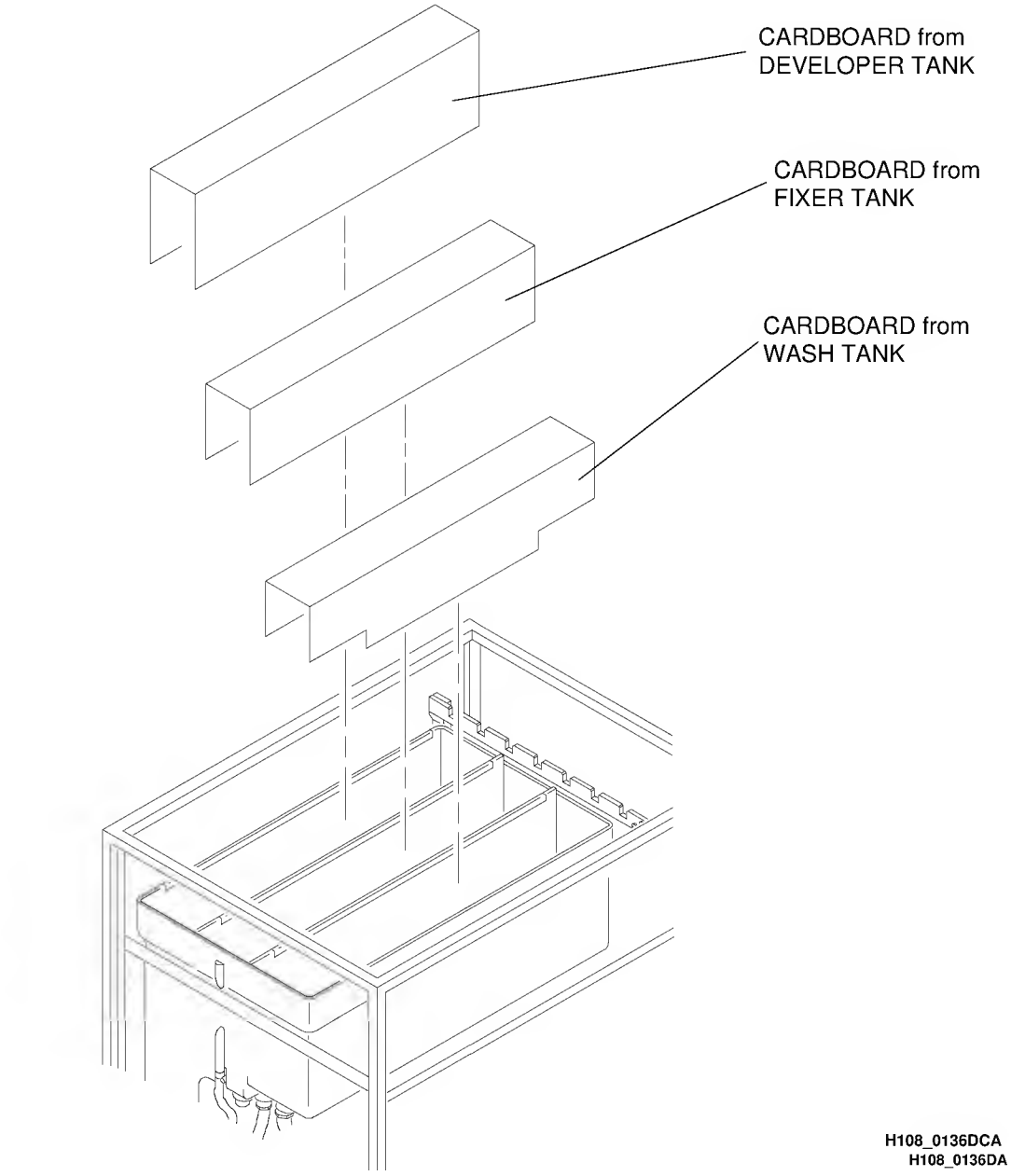


Figure 3 Removing Cardboard from the Processor Tanks

[10] Remove the RECEIVING-END ACCESS PANEL from the processor.

[11] Remove the 3 DRAIN HOSES from the RECEIVING BIN.

[12] Remove and keep the WRAPPED ITEMS from inside the front of the processor.

NOTE

On later models of the processor, some wrapped items may be found on top of the processor.

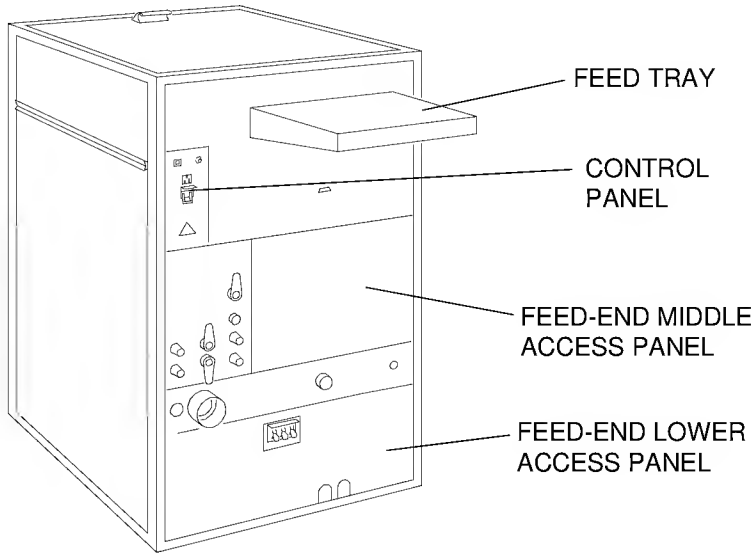


Figure 4 Feed-End View of the Processor

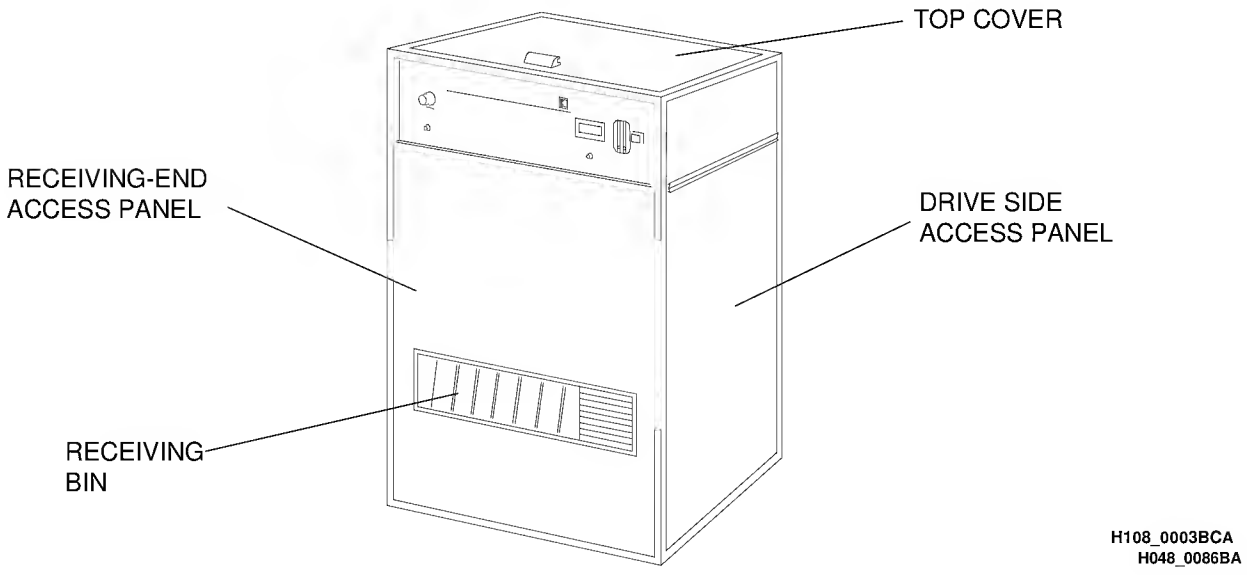


Figure 5 Receiving-End View of the Processor

[13] Remove the 10 OUTER AIR TUBES and remove the PACKING MATERIAL around the SHAFTS of the ROLLERS.

[14] Install the 10 OUTER DRYER AIR TUBES with the AIR SLOTS facing the film path.

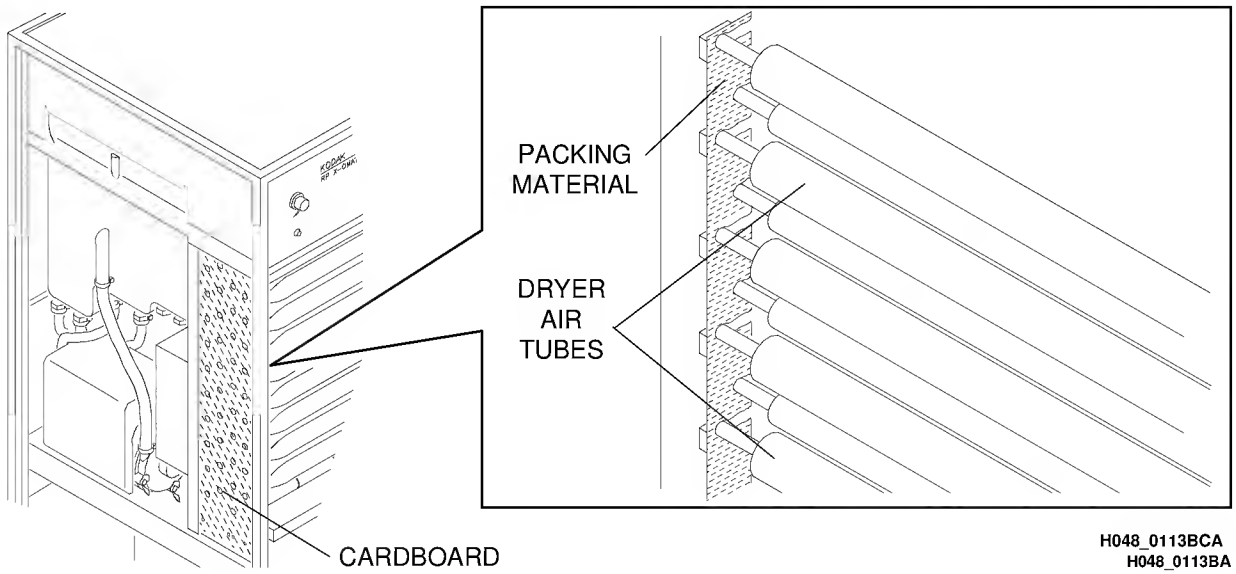


Figure 6 Removing Cardboard from around the Roller Shafts

Removing the Processor from the Skid

WARNING

The processor weighs over 200 kg (442 lb), therefore use 2 people when installing the LEVELING SCREWS and moving the processor into position.

CAUTION

The processor is not attached to the SKID. Use care when moving the SKID.

[1] Move the processor, on the SKID, as close as possible to the processor's final destination.

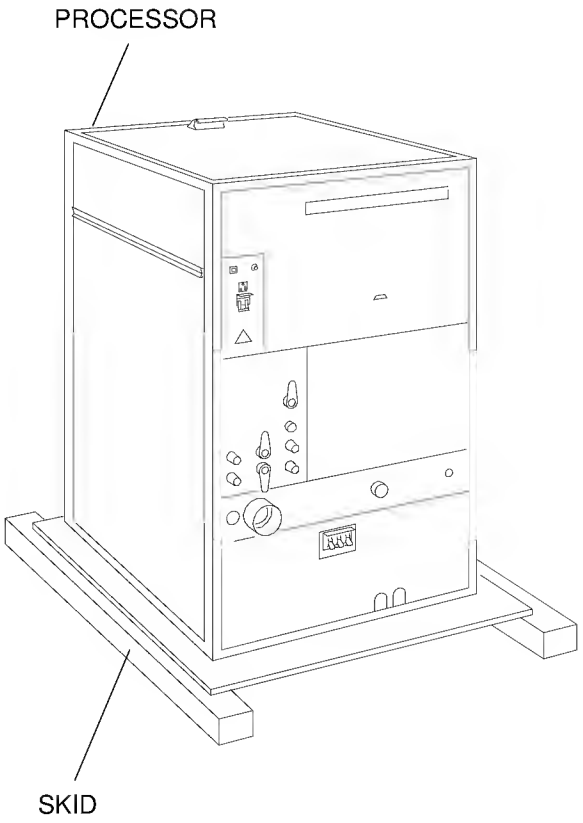


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Figure 7 Processor Mounted on Skid

[2] Remove the FEED-END, LOWER ACCESS PANEL and the 2 SIDE PANELS from the processor for easier access.

[3] Remove the processor from the SKID.

CAUTION

To prevent damage to the LEVELING SCREWS and the processor, do not allow more than a 25 mm (1 in.) clearance between the bottom of the processor and the HEAD of the LEVELING SCREW.

[4] Install the 4 LEVELING SCREWS.

NOTE

For processors being used on 60 HZ power, skip the next section on 50 Hz Operation, and continue with the section, "Installing the Light-Tight Gasket" on page 17.

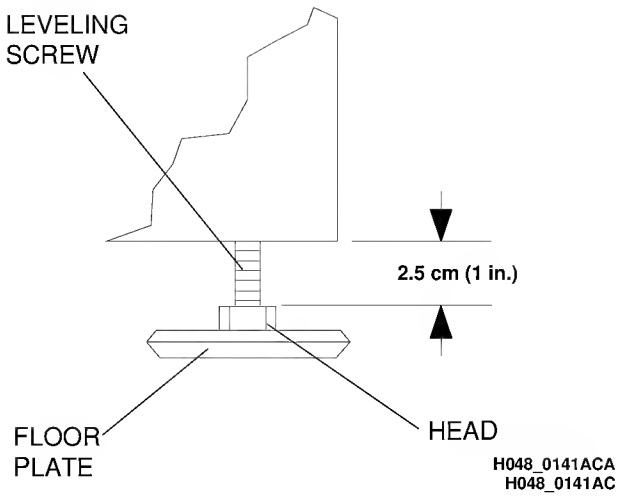

Figure 8 Installing the Leveling Screws

Setting a Processor for 50 Hz Operation

For processors being used on 50 Hz power, do the following:

[1] Remove the BLOWER MOTOR COVER.

[2] Move the BLOWER MOTOR to the inner set of mounting holes, located on the frame of the processor.

[3] Remove the BLOWER MOTOR PULLEY.

[4] Turn the BLOWER MOTOR PULLEY around and install the PULLEY making sure that the **larger diameter end** of the PULLEY is mounted **toward** the BLOWER MOTOR MOUNTING FRAME. See Figure 9.

[5] Move the DRIVE BELT to the larger diameter part of the BLOWER MOTOR PULLEY.

[6] Adjust the position of the BLOWER MOTOR to obtain the correct tension of the BLOWER DRIVE BELT. See the Service Manual for the correct procedure.

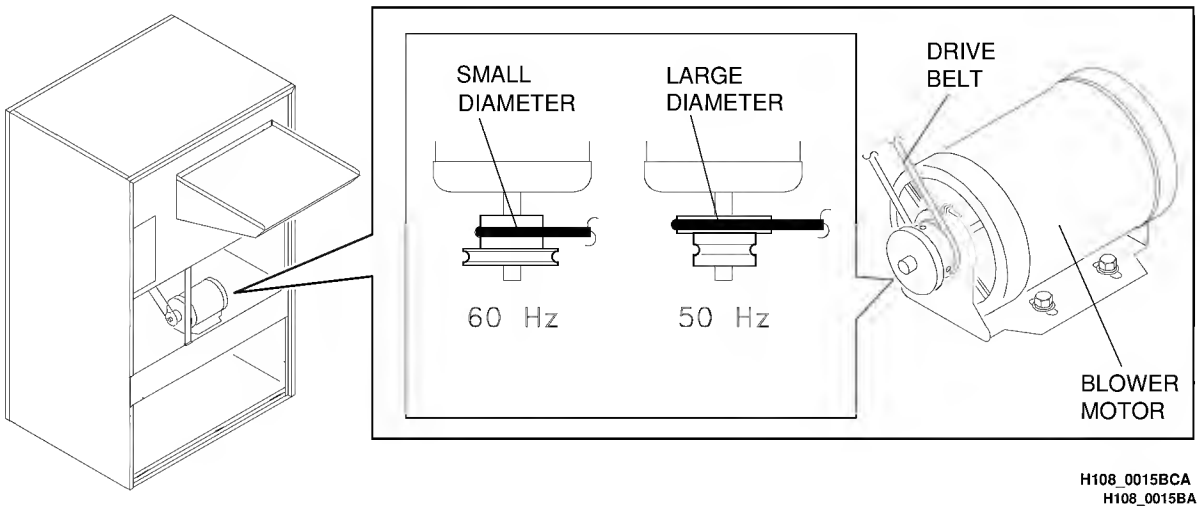

Figure 9 Positioning the Blower Motor and Drive Belt

[7] Check the alignment of the DRIVE BELT. Adjust the PULLEY as necessary. When the processor is operating, check that this alignment is correct. See Figure 10 on page 15.

[8] Deenergize the processor by moving the MAIN CIRCUIT BREAKER, CB1, to the "O" position.

CAUTION

Do not place hands or fingers near the moving parts.

[9] Install the BLOWER MOTOR COVER.

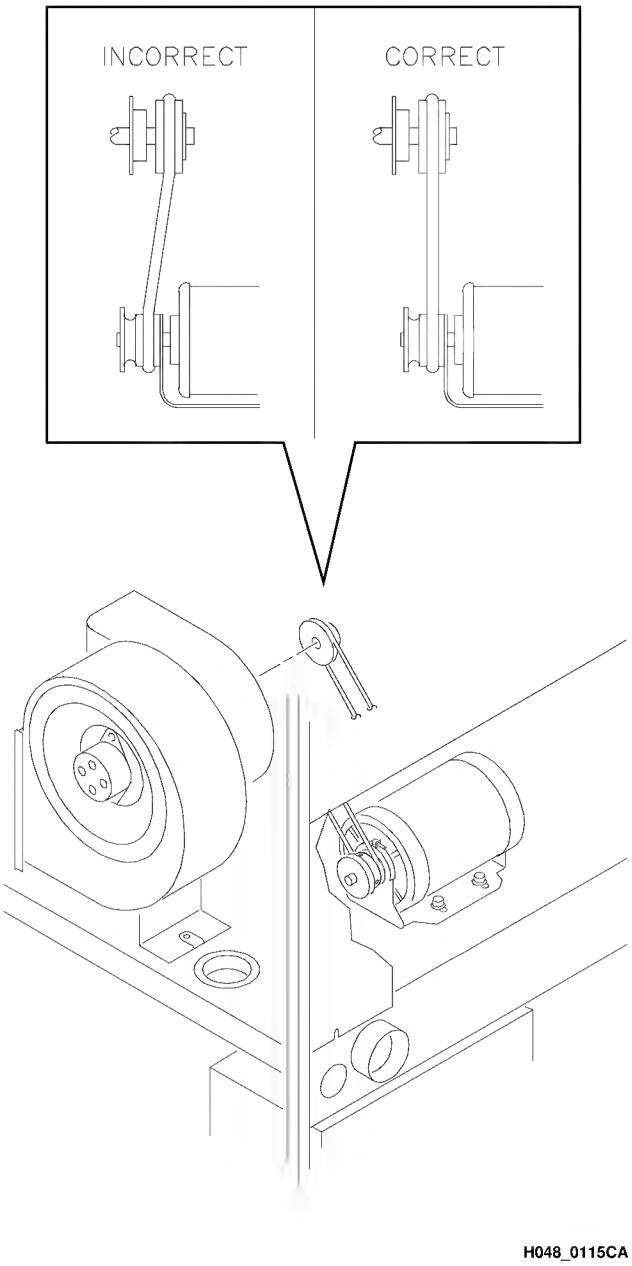

Figure 10 Aligning the Blower Motor Pulley

[10] Remove the SPLASH GUARD and the CHAIN GUARD from the MAIN DRIVE MOTOR.

[11] Loosen the MOTOR-MOUNTING BRACKET.

[12] Remove the CHAIN and the SPROCKET from the MAIN DRIVE MOTOR.

[13] Install from the prepack carton:

- Chain Segment
- 24-Tooth Sprocket

[14] Install the CHAIN.

[15] Move the MOTOR to adjust the CHAIN for the correct tension allowing a deflection of 3.2 to 6.4 mm (1/8 - 1/4 in.).

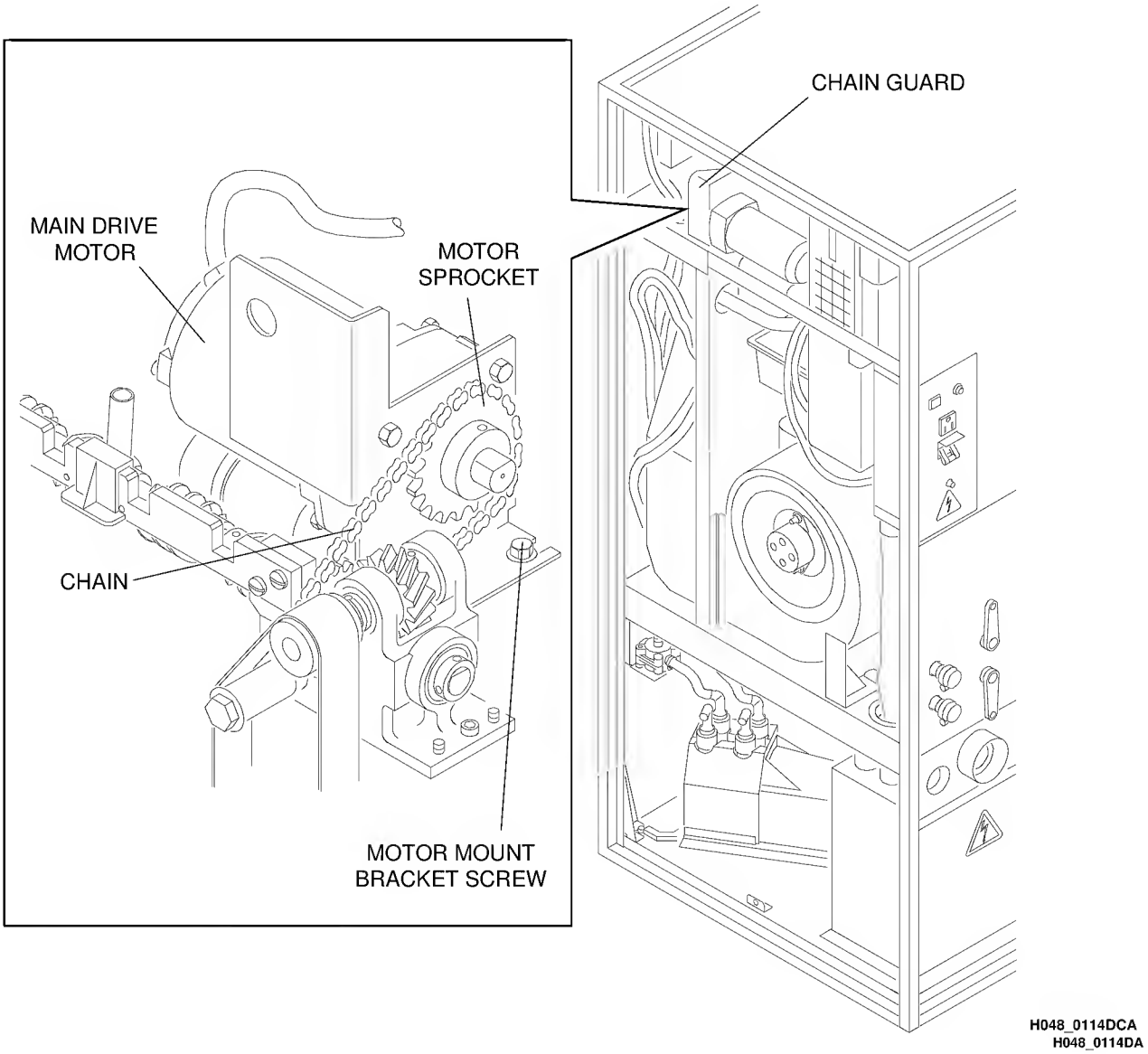

Figure 11 Exposing the Chain Drive

Installing the Light-Tight Gasket

[1] Install the LIGHT-TIGHT GASKET. See the figure.

CAUTION

Do not stretch the GASKET.

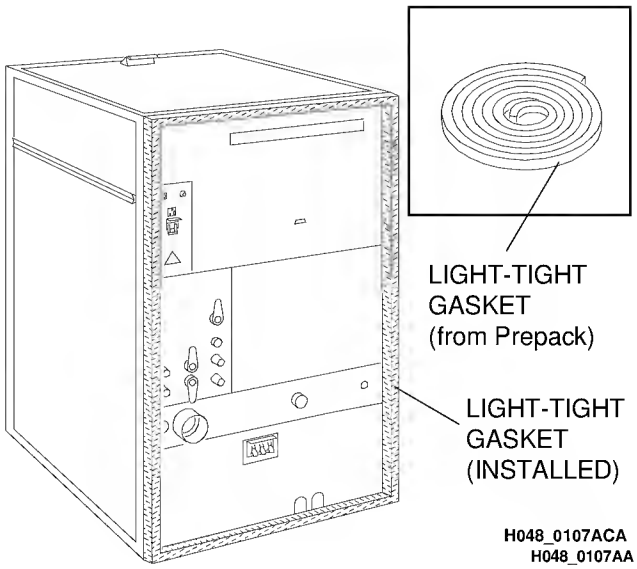

Figure 12 Installing the Light-Tight Gasket

Installing the Feed Shelf

[1] Install the FEED SHELF using the 5 SCREWS, 5 WASHERS, and 5 LOCK WASHERS.

NOTE

Do not tighten the SCREWS.

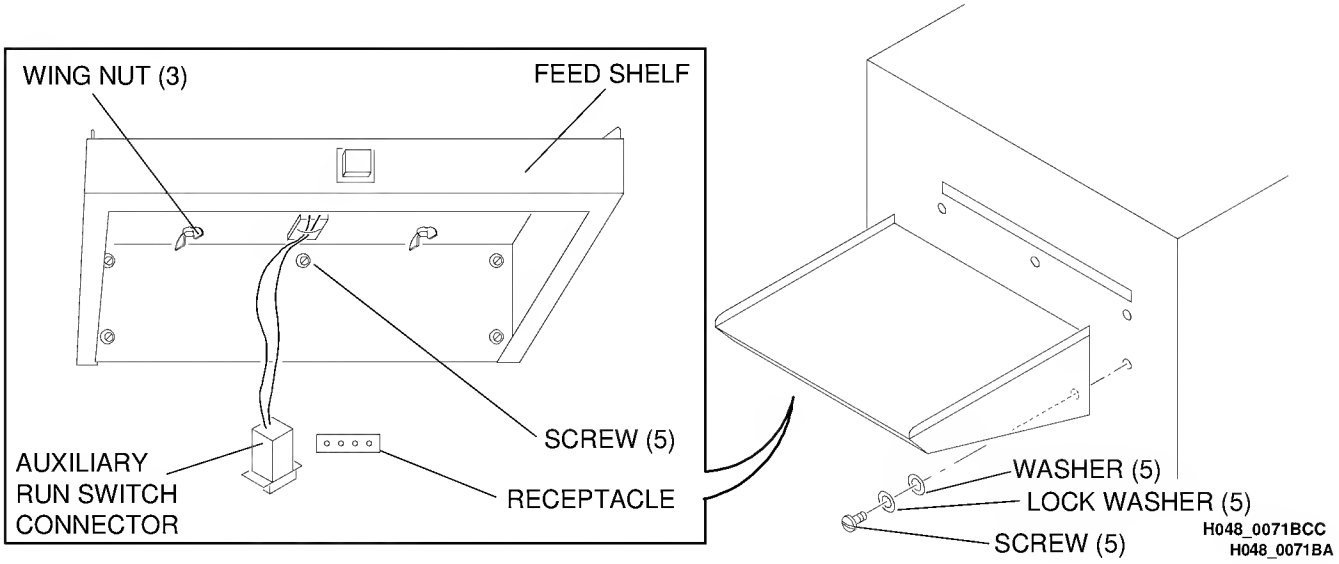

Figure 13 Installing the Feed Shelf

[2] Install the FILM GUIDE onto the FEED SHELF using the 3 WING NUTS and 3 WASHERS.

NOTE

Do not tighten the WING NUTS.

[3] Plug the AUXILIARY/RUN SWITCH CONNECTOR into the RECEPTACLE.

Installing the Grommets and Replenisher Tubes

NOTE

For alternate installation of the REPLENISHER TUBES, insert them through the HOLES in the bottom of the processor, see Figures 14 and 15, or see the Site Specifications.

[1] Install the 2 GROMMETS. Remove a section of the GROMMET if necessary.

[2] Install the REPLENISHER TUBES through the GROMMETS.

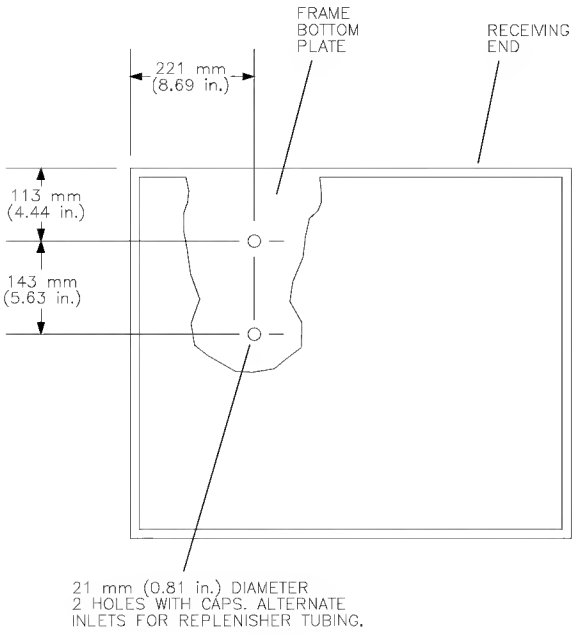
FRAME BOTTOM PLATE
RECEIVING END
221 mm (8.69 in.)
113 mm (4.44 in.)
143 mm (5.63 in.)
21 mm (0.81 in.) DIAMETER 2 HOLES WITH CAPS. ALTERNATE INLETS FOR REPLENISHER TUBING.

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Figure 14 Alternate Method for Installing Replenisher Tubes

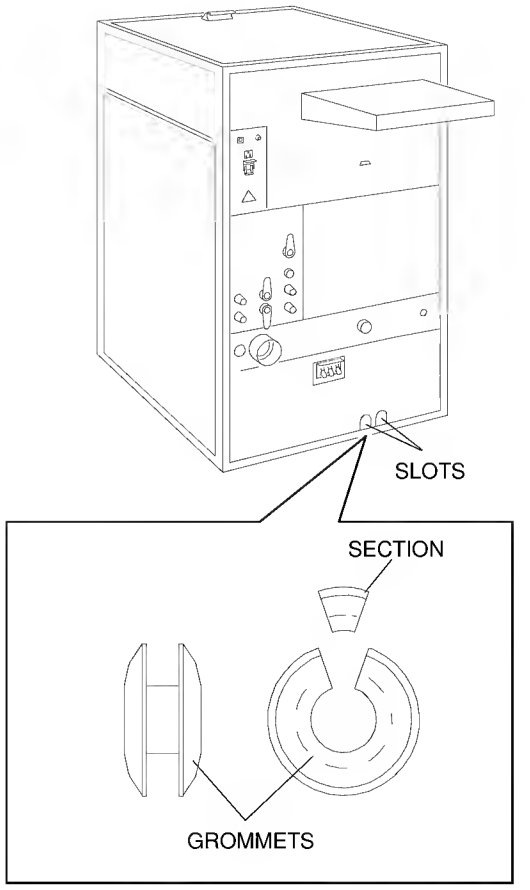

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Figure 15 Installing the Replenisher Tubes Through the Processor Slots

Installing the Developer Filter

[1] Install the DEVELOPER FILTER.

[2] Moisten the O-RING for the FILTER CAP with water.

[3] Install the FILTER CAP.

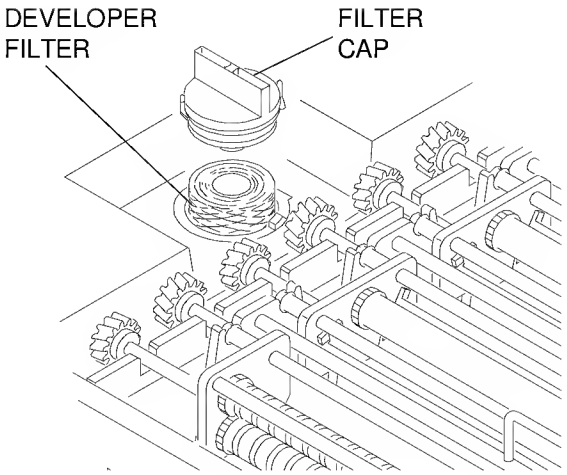

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Figure 16 Installing the Developer Filter

Adjusting the Height of the Feed Shelf

[1] Install the DEVELOPER RACK ASSEMBLY and the DETECTOR CROSSOVER ASSEMBLY, and check that they are positioned correctly.

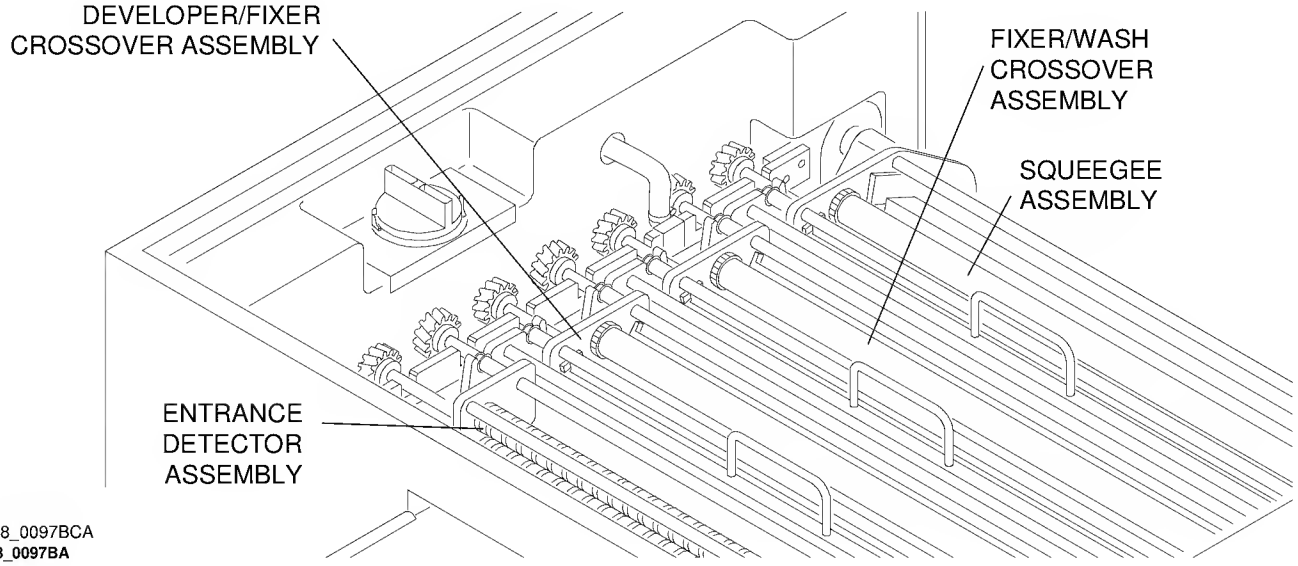

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Figure 17 Installing the Detector Crossover Assembly

[2] Adjust the position of the FEED SHELF so that it is approximately 1 mm (1/16 in.) lower than the NIP of the DETECTOR CROSSOVER ROLLERS.

[3] When the height is adjusted correctly, tighten the 5 SCREWS.

NOTE

Do not tighten the WING NUTS.

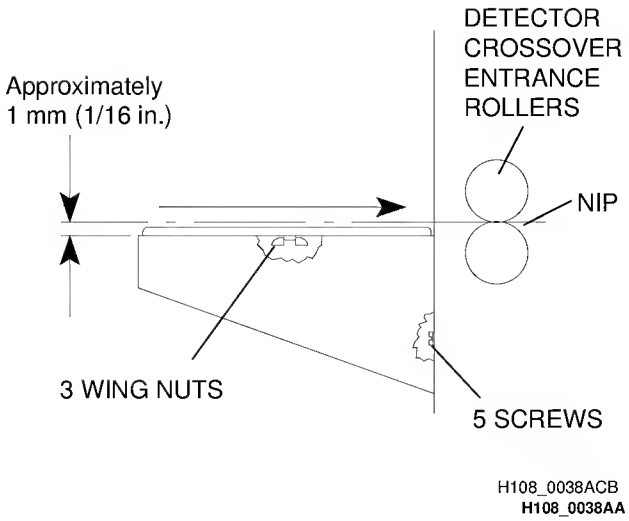


Figure 18 Installing the Feed Shelf

Aligning the Film Guide

[1] Insert a 35 x 43 cm (14 x 17 in.) film.

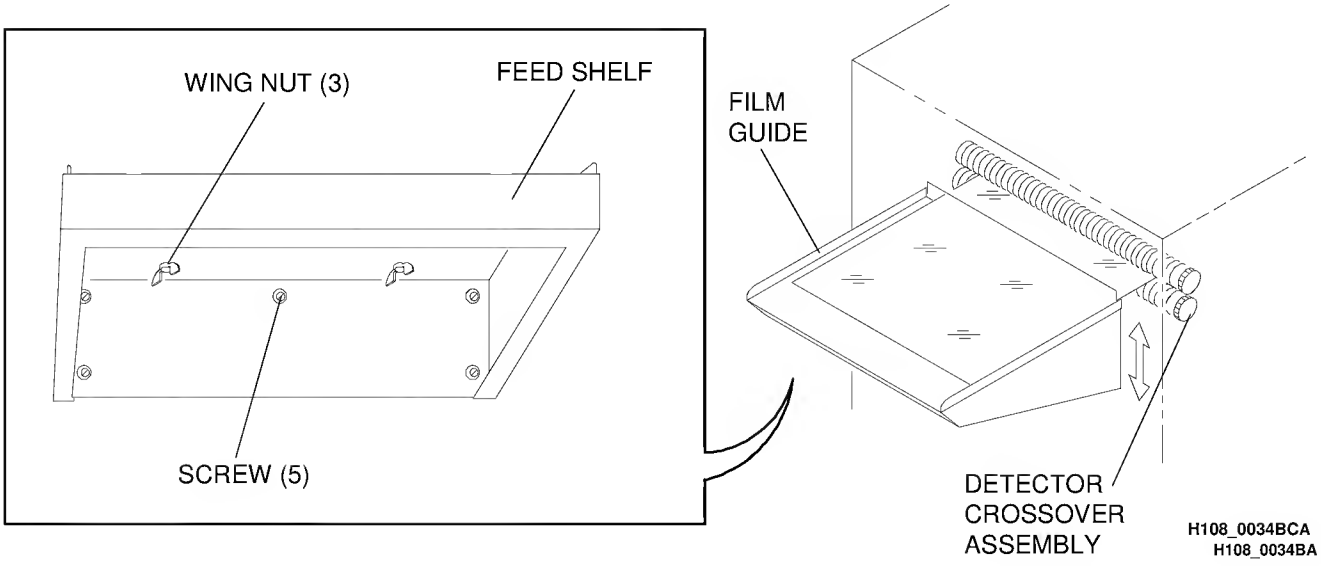


Figure 19 Installing the Film Guide Assembly

[2] Use the edges of the film to align the FILM GUIDE with the DETECTOR CROSSOVER ASSEMBLY for squareness.

[3] Tighten the 3 WING NUTS.

Moving the Processor Into Position

WARNING

The processor weighs over 200 kg (442 lb), therefore use 2 people when installing the LEVELING SCREWS and moving the processor into position.

[1] Move the processor within approximately 2.5 cm (1 in.) of the wall.

[2] Install the FLOOR PLATES.

[3] Move the processor against the wall.

[4] Check that the LIGHT-TIGHT GASKET is tight against the wall. Compress the LIGHT-TIGHT GASKET to approximately 10 mm (3/8 in.).

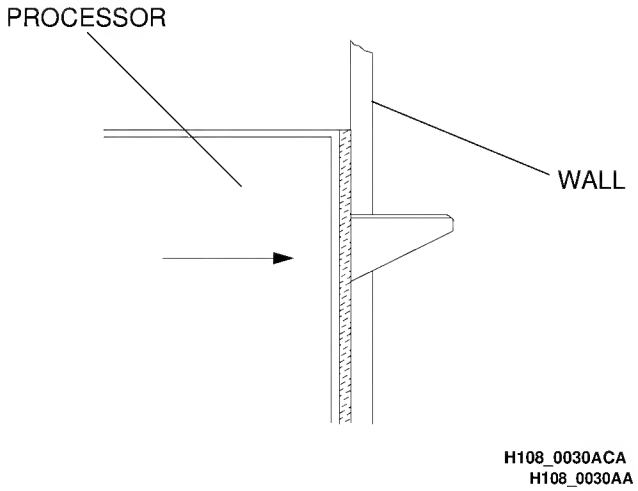


Figure 20 Positioning the Processor

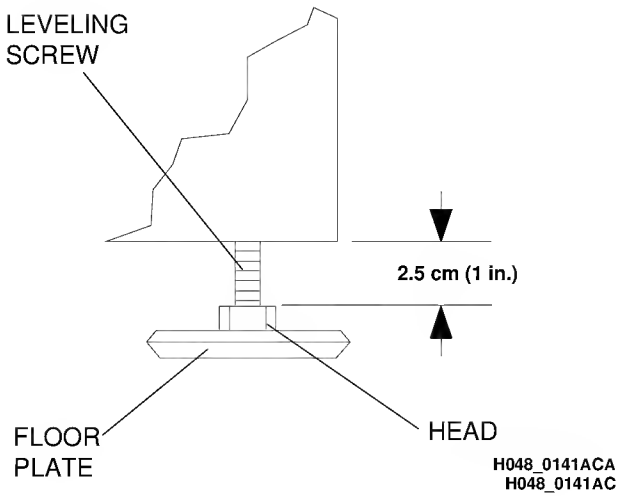


Figure 21 Installing the Floor Plates

CAUTION

To prevent damaging the LEVELING SCREWS and the processor, do not allow more than a 25 mm (1 in.) clearance between the bottom of the processor and the HEAD of the LEVELING SCREW.

[1] Install and seat the DEVELOPER, FIXER, and WASH RACK ASSEMBLIES.

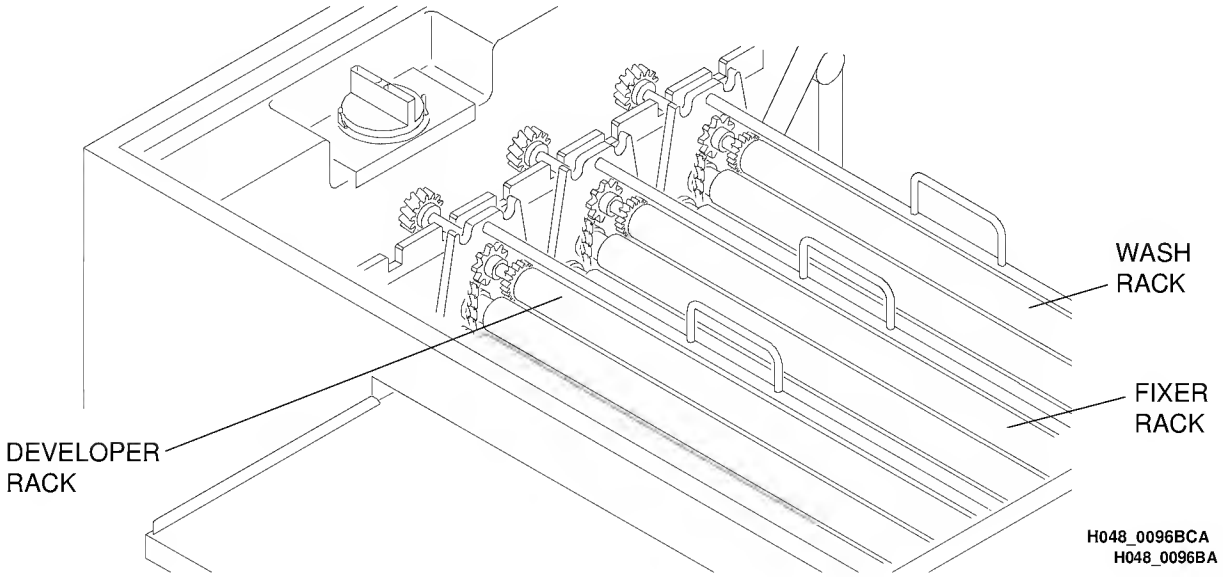


Figure 22 Installing the Rack Assemblies

[2] Check that the RACKS are in their correct positions and that the GEARS of the RACK ASSEMBLIES engage with the GEARS of the MAIN DRIVE SHAFT.

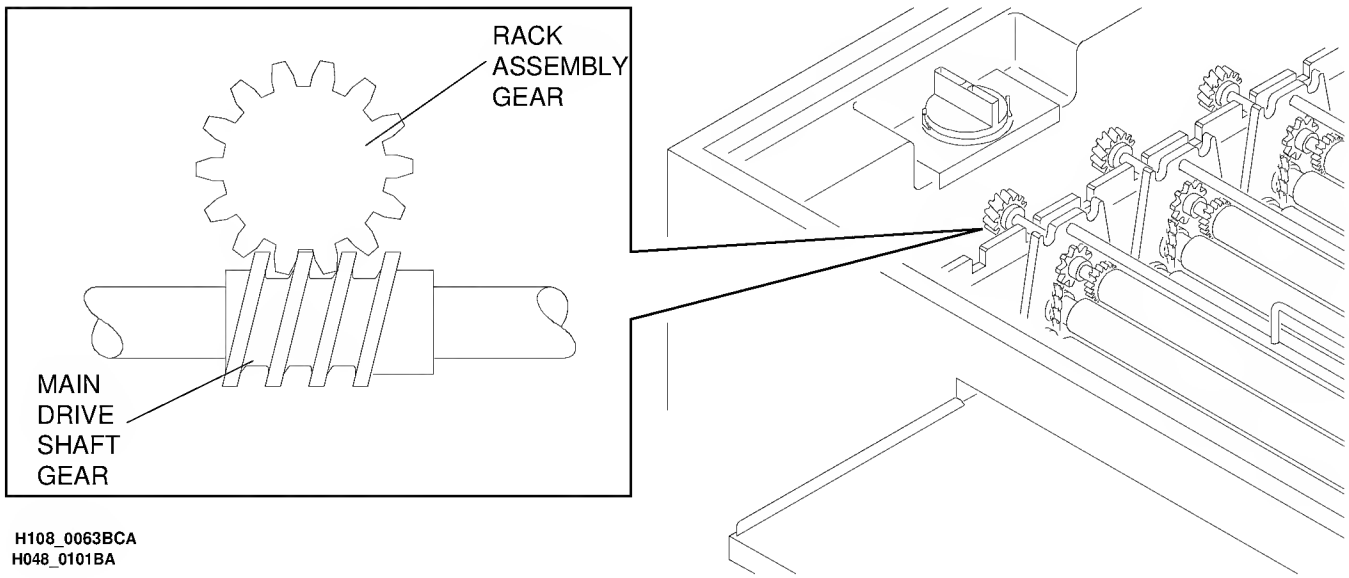


Figure 23 Positioning the Racks and Gears

CAUTION

The edge of the LEVEL could cause damage to the surface of the ROLLER.

[3] Place a LEVEL as shown in the figure. Adjust the LEVELING SCREWS to level the processor from side to side.

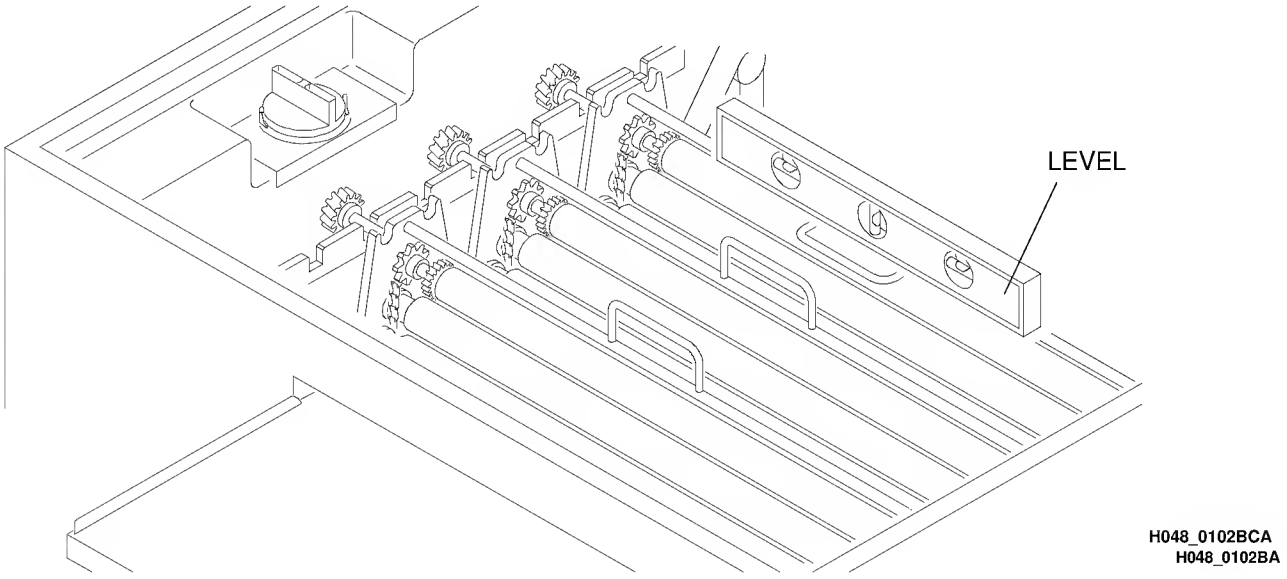


Figure 24 Leveling the Processor Side to Side

[4] Place a LEVEL as shown in the figure. Adjust the LEVELING SCREWS to level the processor from front to back.

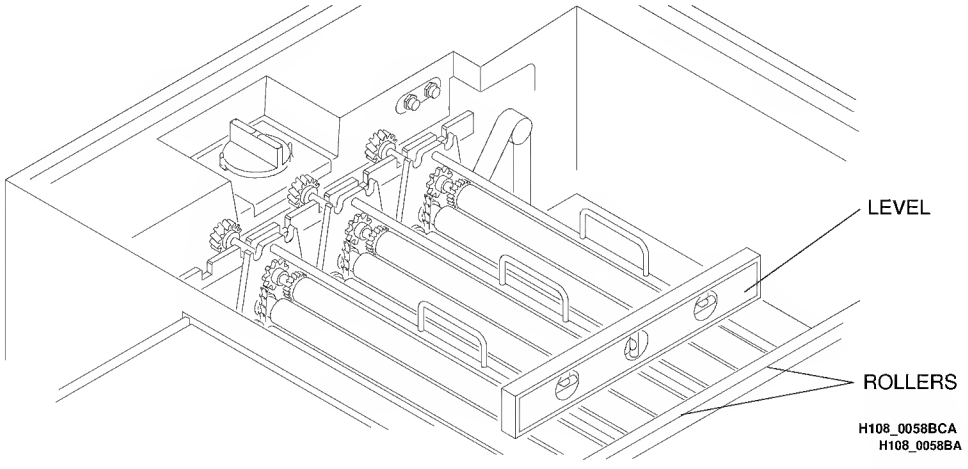


Figure 25 Leveling the Processor Front to Back

[5] Install the Seismic Kit, if required.

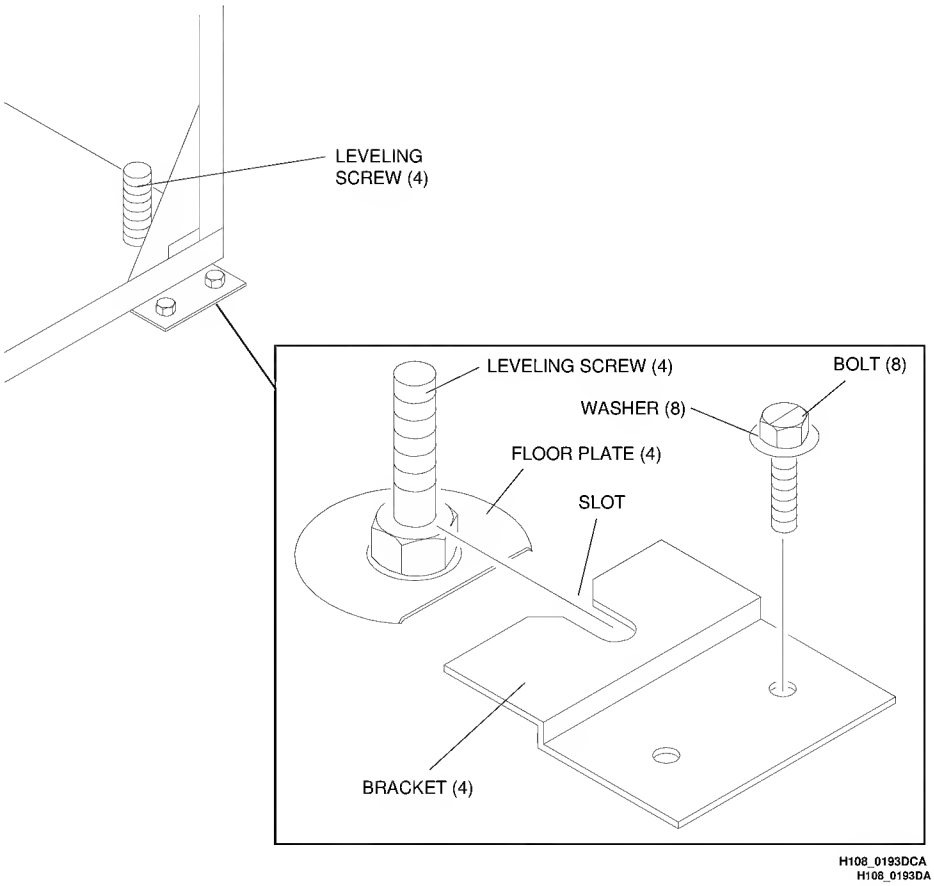


Figure 26 Installing the Seismic Kit

Connecting the Replenishment Tanks

[1] Install the STRAINERS.

[2] Connect the 10 mm (3/8 in.) TUBING (not supplied) from the inlets of the REPLENISHMENT PUMP ASSEMBLY to the DEVELOPER and FIXER REPLENISHMENT TANKS.

CAUTION

To prevent contamination of the processor solutions, check that the DEVELOPER and FIXER REPLENISHMENT TUBES are connected to the correct tanks.

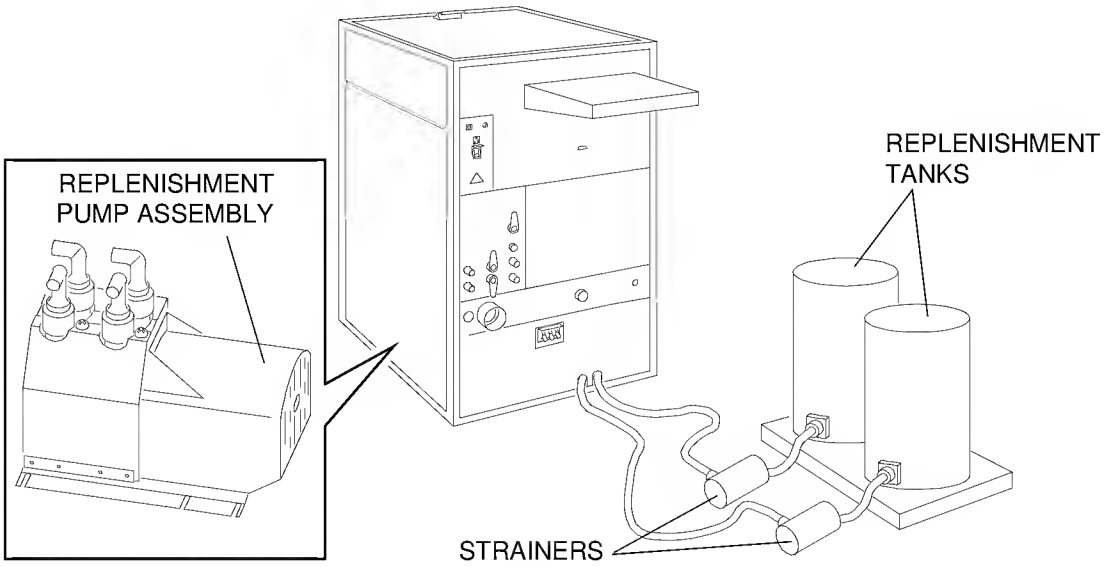


Figure 27 Connecting Replenishment Tubing

Connecting the Drains

The processor is equipped to accommodate the separation of DEVELOPER, FIXER, and WATER effluent liquid. The processor is shipped from the factory with a separate FIXER OVERFLOW/TANK DRAIN, AUXILIARY FIXER TANK DRAIN, DEVELOPER OVERFLOW/TANK DRAIN, AUXILIARY DEVELOPER TANK DRAIN, and a common WASH WATER OVERFLOW/TANK DRAIN.

CAUTION

To prevent severe corrosion, do not use brass or copper piping.

[1] Connect the three 1.9 cm (¾ in.) tubes provided, on the FEED-END of the processor. Route the tubing as required. Drain service must comply with local codes. Do not make a solid connection at the floor drain.

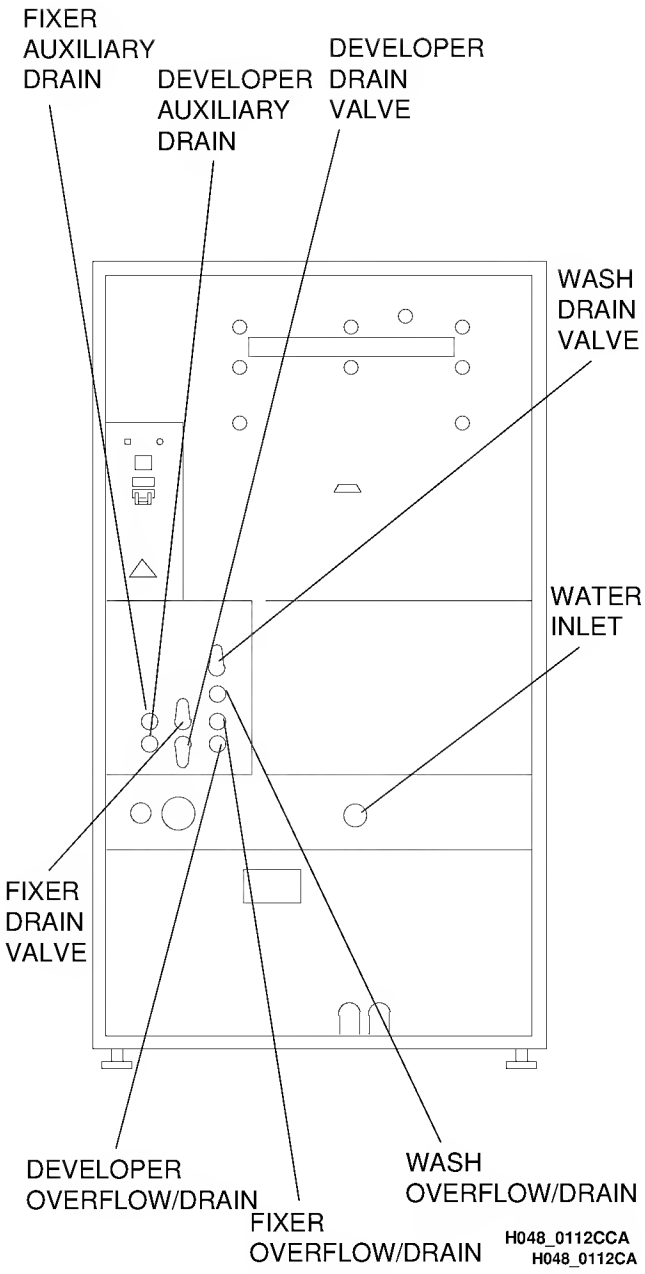


Figure 28 Connecting the Drains

Connecting the Wiring to Terminal Strip TB1

[1] Remove the LOWER ACCESS PANEL from the FEED-END of the processor.

[2] Open the TRANSFORMER BOX DOOR.

[3] Determine the supply voltage being applied to the processor.

[4] Connect the main input power wires to TERMINAL STRIP TB1.

[5] Take the appropriate ELECTRIC SERVICE LABEL from the PREPACK CARTON. Install the ELECTRIC SERVICE LABEL on the DATA PLATE which is located on the REPLENISHER CHECK TUBE BRACKET.

[6] Connect the JUMPERS from the PREPACK CARTON to TERMINAL STRIP TB2. See the figure.

[7] Dress the JUMPER wires neatly to prevent damage to the wires due to pinching or scraping by the panel edge.

[8] Close the TRANSFORMER BOX DOOR.

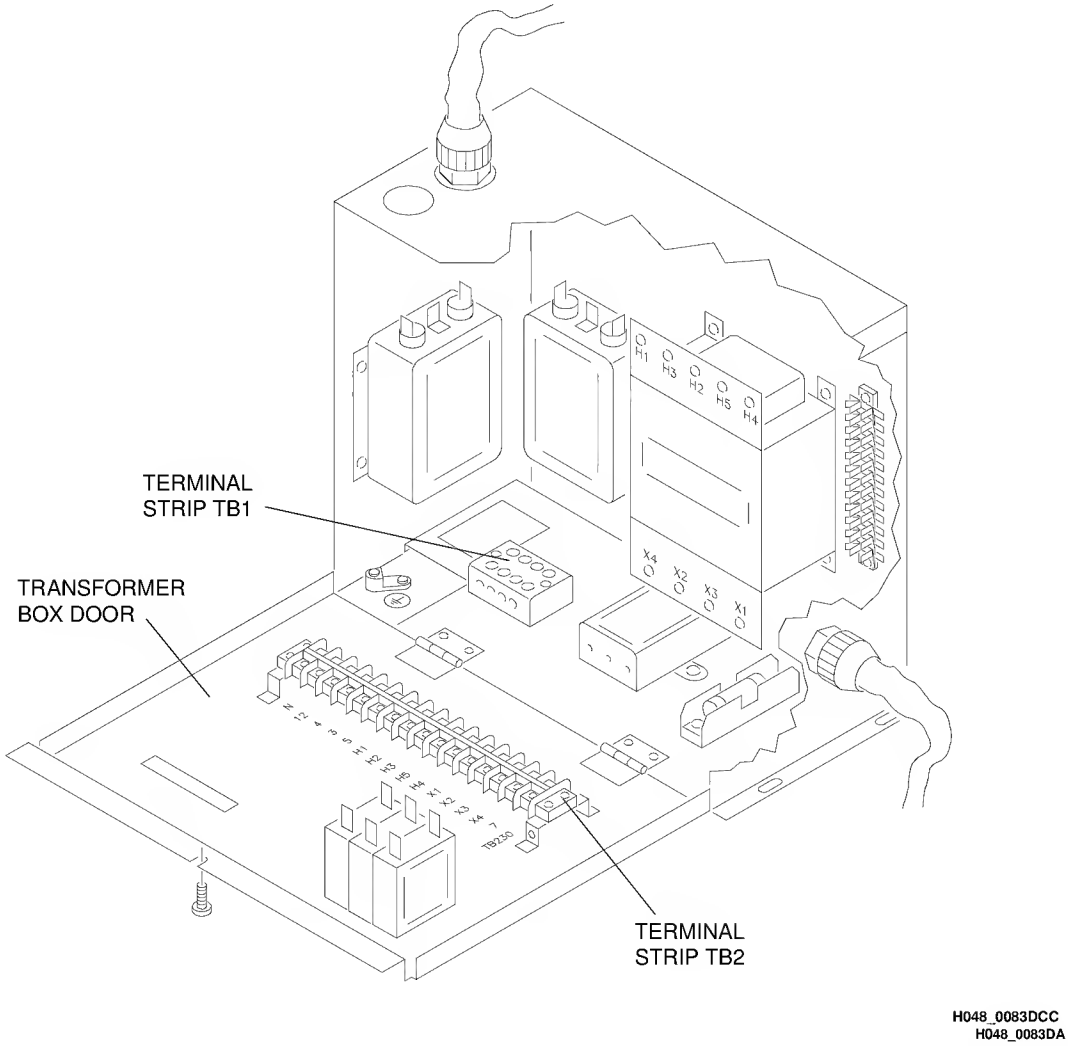


Figure 29 Accessing Terminal Strip TB1 and Installing the Electric Service Label

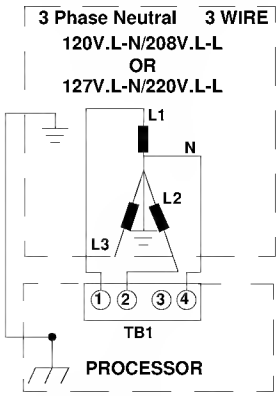
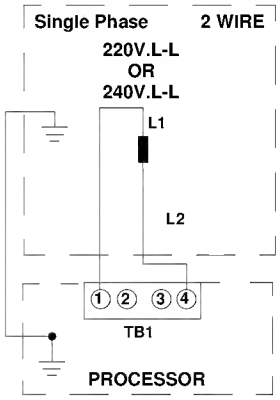
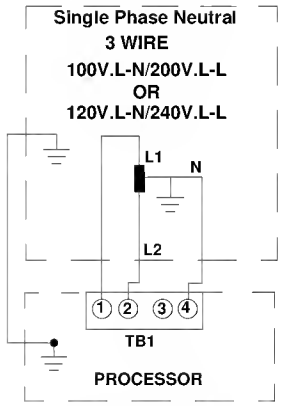
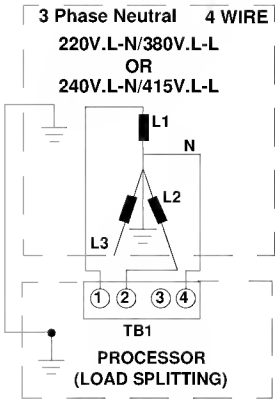
BUILDING POWER SYSTEM	NOMINAL SUPPLY VOLTAGE	MEASURED SUPPLY VOLTAGE	FREQUENCY (Hz)	CONNECTION DIAGRAM
	120/208	104/180-127/220	60	A
	127/220	115/199-123/213	50	B
		124/215-140/242		C
	220	198-216	50	D
		217-242		E
	240	226-254	50/60	F
	120/200	90-98	50/60	G
		99-110		H
	120/240	104/208-127/254	60	J
	230/380 SPLIT LOAD	207/357-233/403	50	K
	240/415 SPLIT LOAD	225/390-254/440	50	L

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Figure 30 Wiring Diagrams

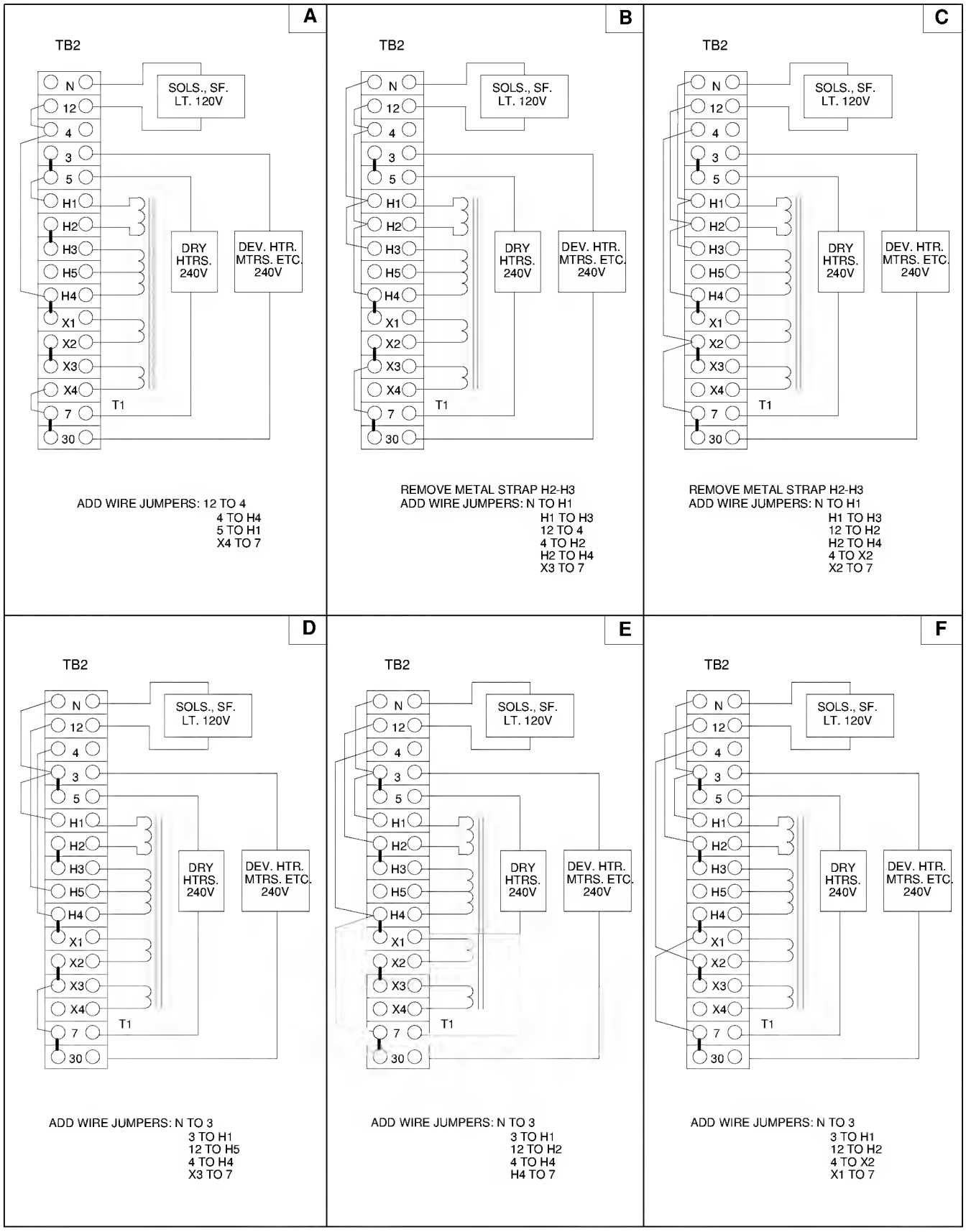


Figure 31 Wiring Diagrams (Cont.)

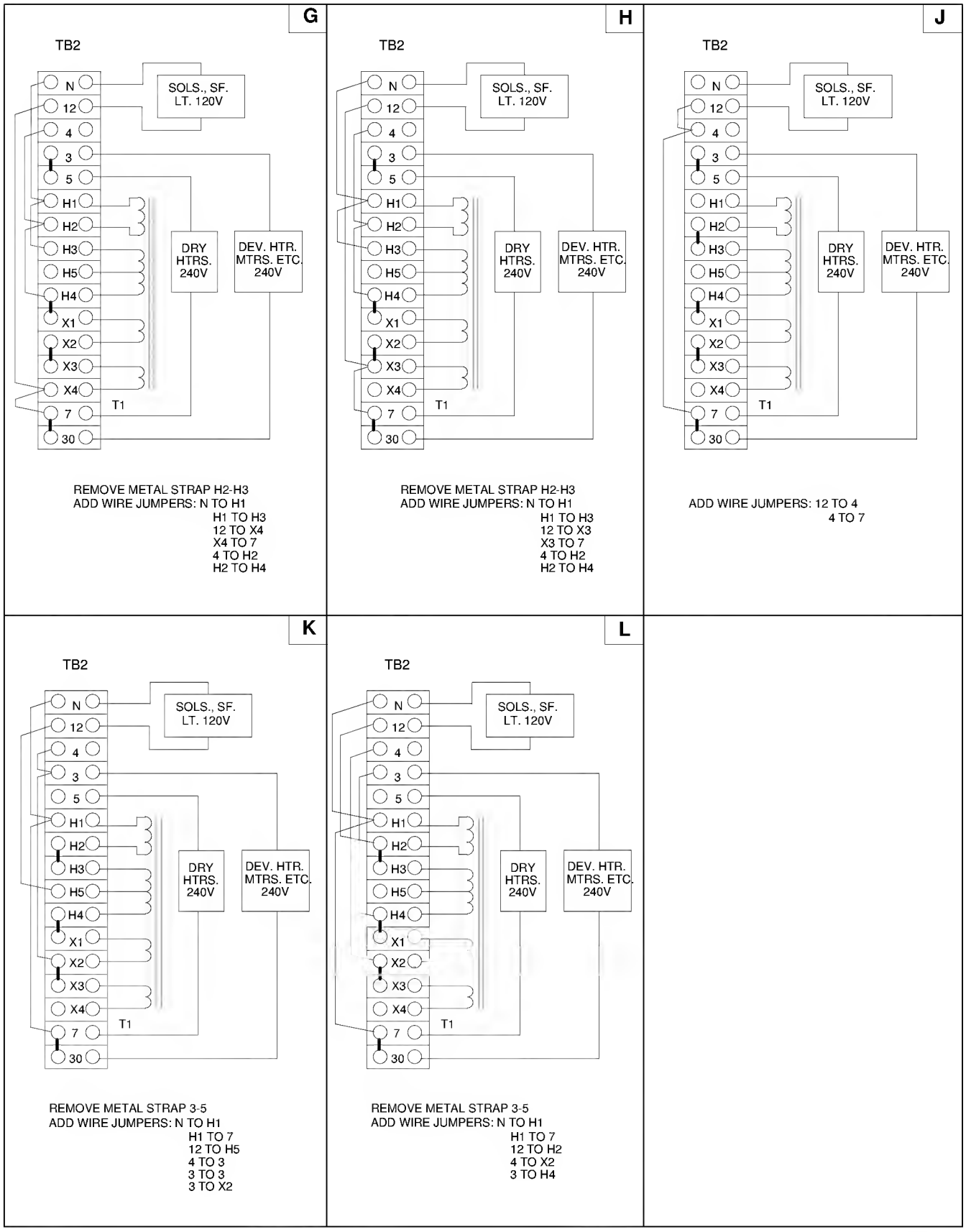


Figure 32 Wiring Diagrams (Cont.)

Connecting the Exhaust

[1] Connect 7.6 cm (3 in.) ELBOWS and rigid DUCT or flexible EXHAUST HOSE between the processor EXHAUST PORT and the BUILDING EXHAUST DUCT.

NOTE

Do not make a solid connection at the BUILDING END. Do not connect the EXHAUST DUCT to the processor at this time.

[2] Measure the static pressure in the DUCT using a modified J TUBE (CHECK TUBE 592380) and AIR METER TL-2431. Make the measurement 30.5 cm (12 in.) from the end of the DUCT to be connected to the processor.

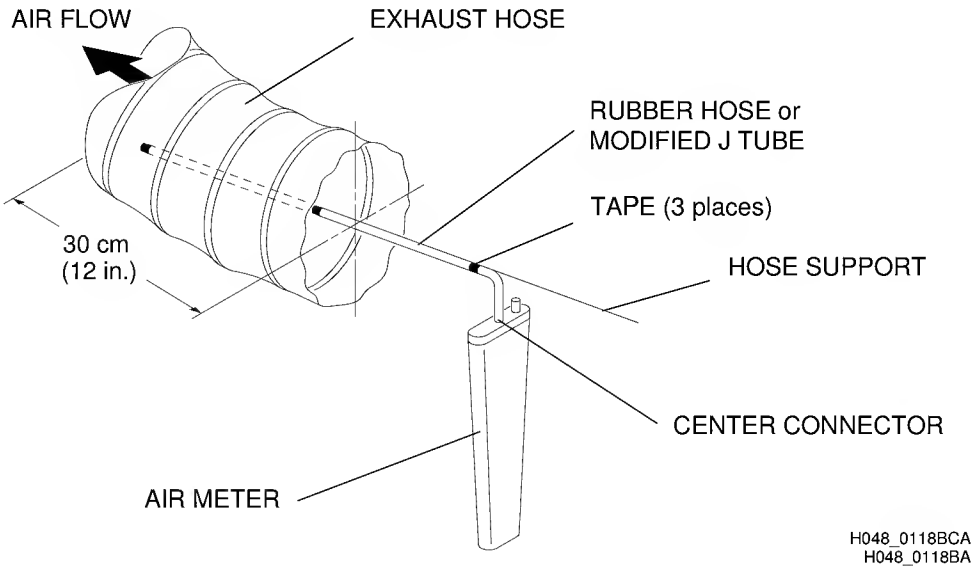


Figure 33 Measuring the Static Pressure

[3] To obtain the correct static pressure, as shown in Table 1, adjust the clearance at the BUILDING END of the DUCT as illustrated.

Table 1 Static Pressures

Duct Diameter	Negative Static Pressure, (Water Head)	
	MIN	MAX
76 mm (3 in.)	0.76 mm (0.03 in.)	1.02 mm (0.04 in.)
102 mm (4 in.)	0.25 mm (0.01 in.)	0.51 mm (0.02 in.)

[4] Connect the DUCT to the building exhaust.

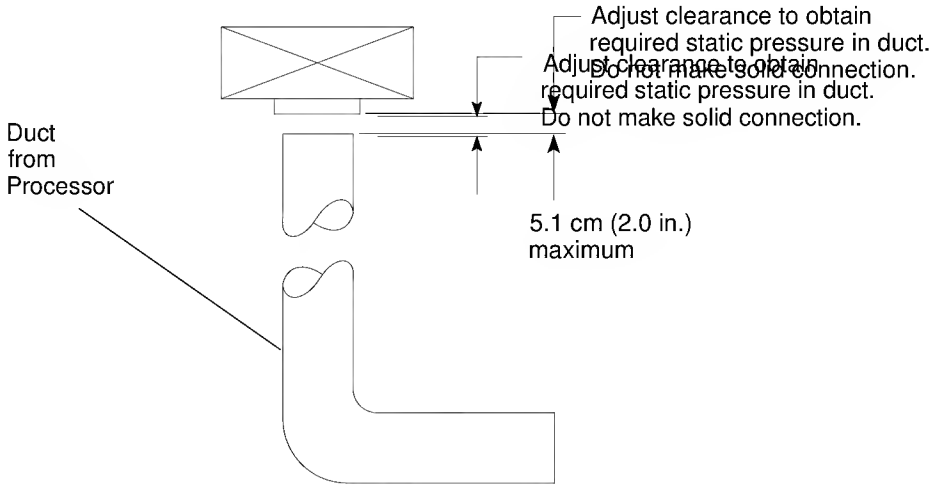


Figure 34 Connecting the Processor Exhaust to the Building Exhaust

[5] Connect the DUCT to the processor.

Making the Water Connection

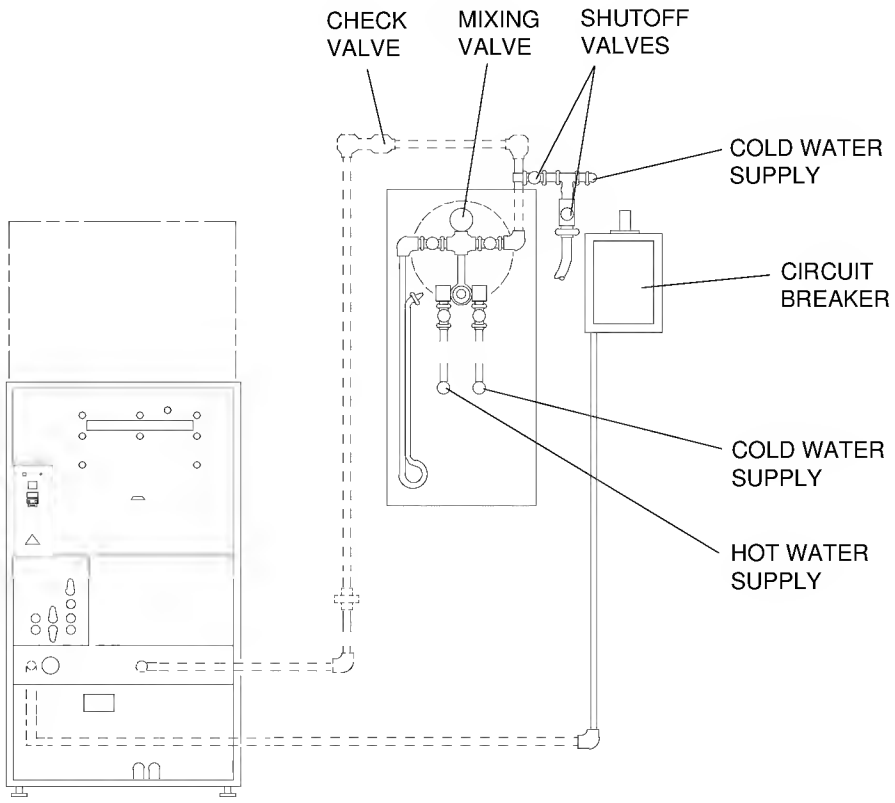
CAUTION

Before connecting the water line to the processor, flush the line to remove any debris or rust particles in the line.

See the Site Specifications, and install the plumbing to the water connection, using an adapter if necessary.

Checking the Drain Valves

Check that the 3 DRAIN VALVES are closed. All VALVE HANDLES should be in the vertical position.



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H048_0089DA

Figure 35 Connecting the Water Inlet Plumbing

Flooded Replenishment

Factory set to "OFF" (Left) position.

This feature is designed for low film usage. When in the "ON" (Right) position, it allows for replenishment of the developer and fixer solutions each time the processor comes out of standby.

Water Conservation

Factory set to "ON" (Right) position.

[1] When water conservation is "ON", and the processor cycles into standby, no water flows to the processor except when water is needed for developer cooling. As film is processed, water flows into the wash tank.

NOTE

When the processor is not in use, it will continue to cycle in and out of standby without water flowing to the wash tank.

[2] When water conservation is "OFF", water continually flows to the wash tank as long as the processor is out of standby.

Selecting the Replenishment Mode

[1] To access SWITCH U20 on the 100 CIRCUIT BOARD, open the ELECTRICAL BOX DOOR.

[2] If the customer requires FLOODED REPLENISHMENT, set the SWITCH U20-1 to the right (ON).

[3] If the customer requires no WATER CONSERVATION, set the SWITCH U20-2 to the left (OFF).

[4] U20-3 must be set to the right (ON) position.

[5] U20-4 must be set to the left (OFF) position.

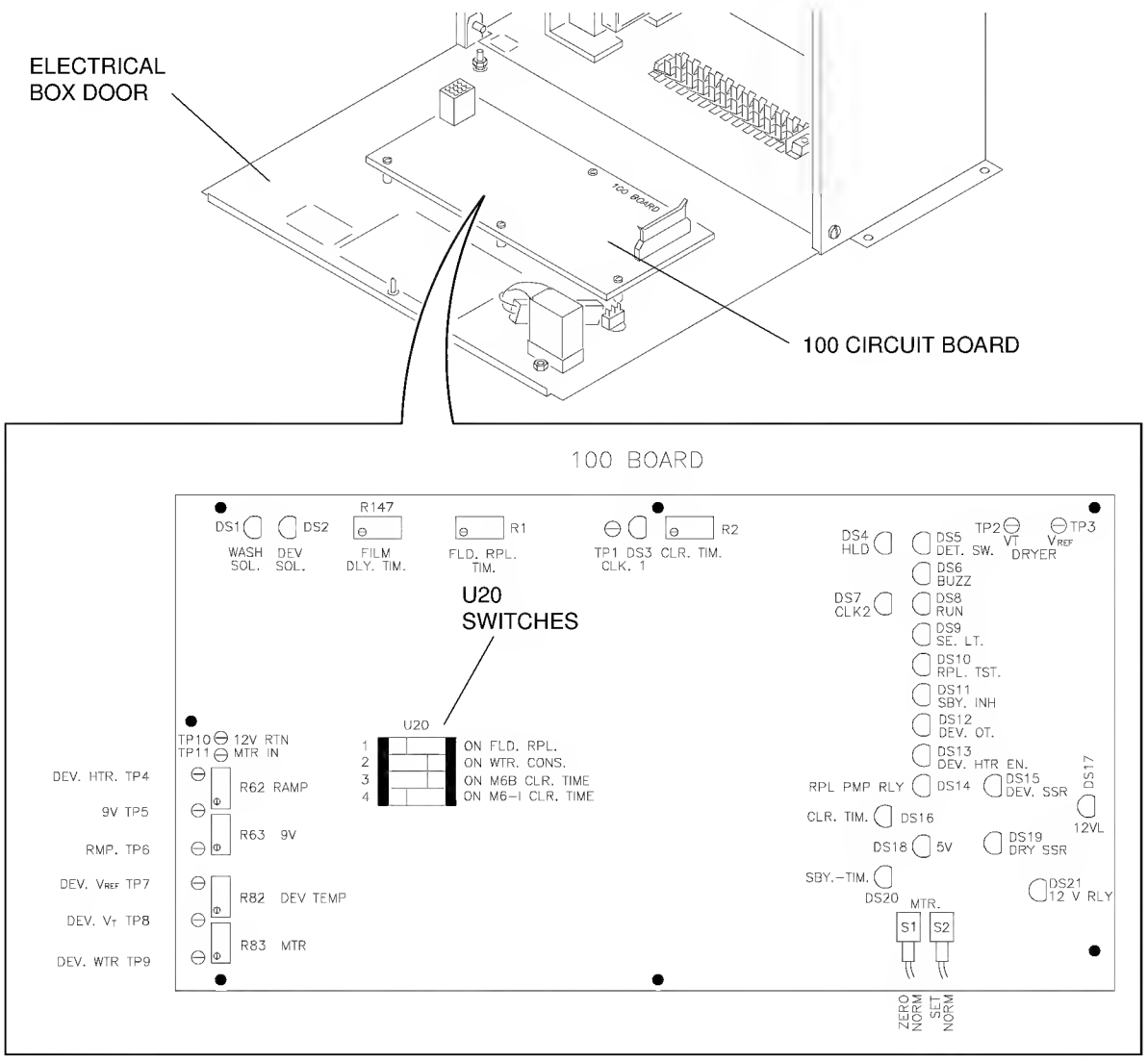

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Figure 36 Setting Switch U20 on the 100 Circuit Board

Using the Splash Guard and Drip Tray

[1] Install a SPLASH GUARD before removing or installing a RACK ASSEMBLY.

[2] Set the RACK ASSEMBLY into the DRIP TRAY.

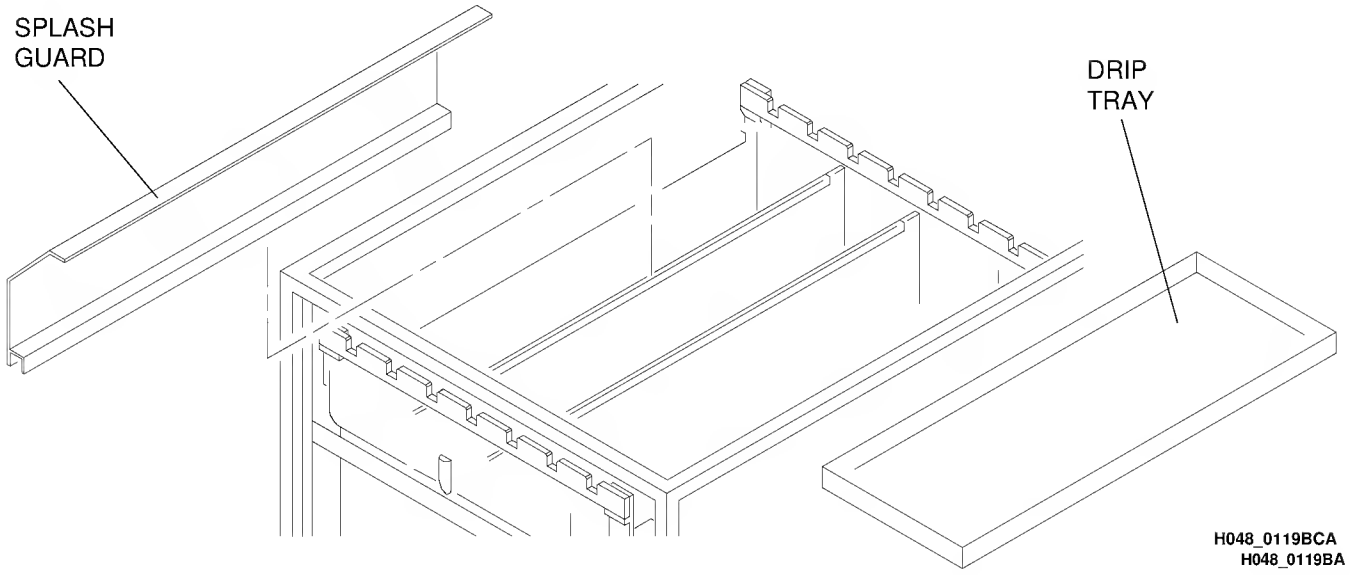

Figure 37 Installing the Splash Guard

Filling the Tanks

NOTE

- Before filling the tanks with chemicals, it is recommended that you fill the tanks with water and check the plumbing system for leakage with the processor energized.
- All adjustable metal band clamps used on tubing connections **must** be checked for tightness at the time of the processor installation.
- Although a clamp may be properly tightened at the time of installation, cold-flow (shrinkage) of the plastic tubing will take place beneath the clamp, thus the clamp may require further tightening within 2 to 4 weeks.
- Always check the tightness of the clamp after installing replacement tubing.

[1] Remove all the RACKS.

[2] Install the SPLASH GUARD. See Figure 37.

[3] Fill the FIXER TANK to the FIXER FILL LINE. See the figure.

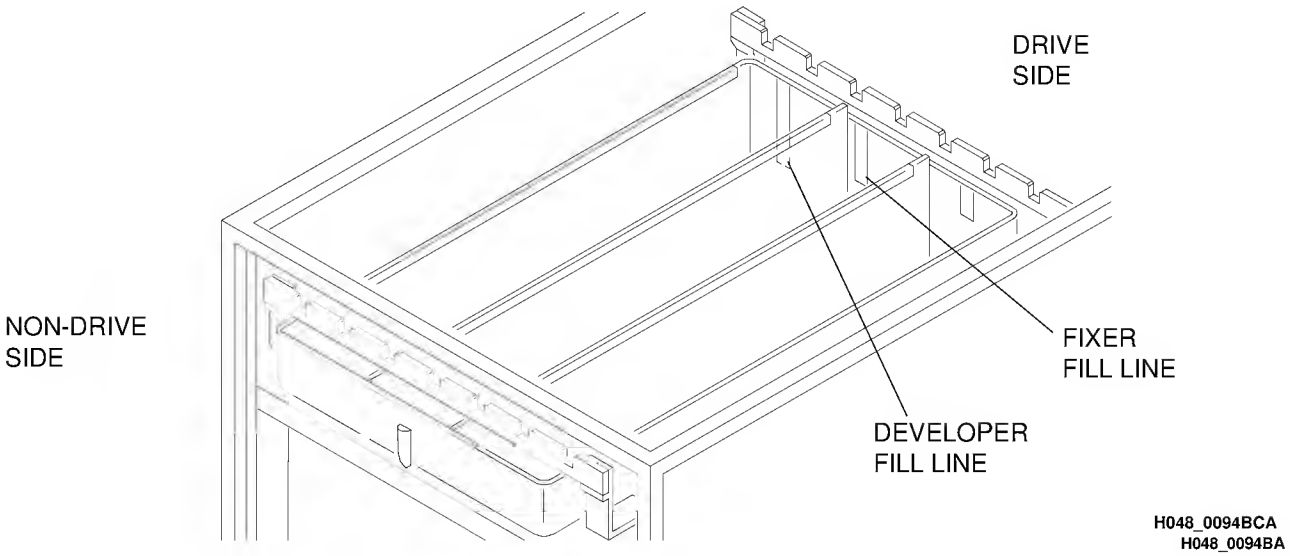

Figure 38 Tank Fill Lines

[4] Clean any FIXER spills.

[5] Clean the SPLASH GUARD.

[6] Install the SPLASH GUARD to allow filling of the DEVELOPER TANK.

[7] Fill the DEVELOPER TANK to the DEVELOPER FILL LINE.

[8] Open the WATER SUPPLY VALVE to provide water to the processor. (The tank will not fill until the processor is energized in a later step.)

[9] Unlock the DRYER TEMPERATURE CONTROL KNOB by rotating the LOCKING RING counter-clockwise ↶ approximately ¼ turn.

[10] Rotate the DRYER TEMPERATURE CONTROL KNOB counter-clockwise ↶ as far as it will turn.

[11] Lock the DRYER TEMPERATURE CONTROL KNOB by rotating the LOCKING RING clockwise ↷ approximately ¼ turn.

NOTE

This will keep the DRYER at minimum heat to provide the correct temperature for adjusting the tension of the DRYER BELT.

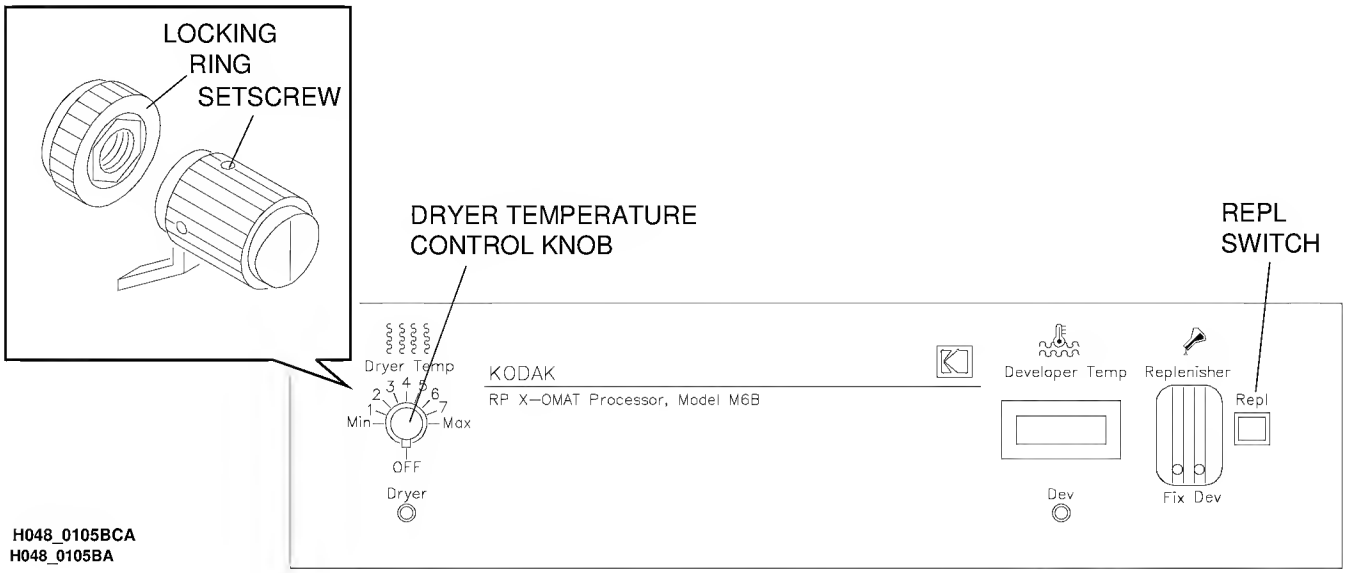

Figure 39 Adjusting the Dryer Temperature Control Knob

CAUTION

If the processor is to be operated at 50 Hz, make sure that the processor is set for operation at 50 Hz. See the procedure "Setting a Processor for 50 Hz Operation" on page 14.

[12] Move the CIRCUIT BREAKER to the "I", or energized position

[13] Check that the RECIRCULATION PUMPS are operating by observing motion on the surface of the solution TANKS.

[14] Allow the wash water to overflow for 5 minutes or longer.

[15] Clean the WASH TANK, if necessary.

[16] Check the processor for leaks.

IMPORTANT

After the processor has been in regular use for one or 2 days, once again check the processor for leaks.

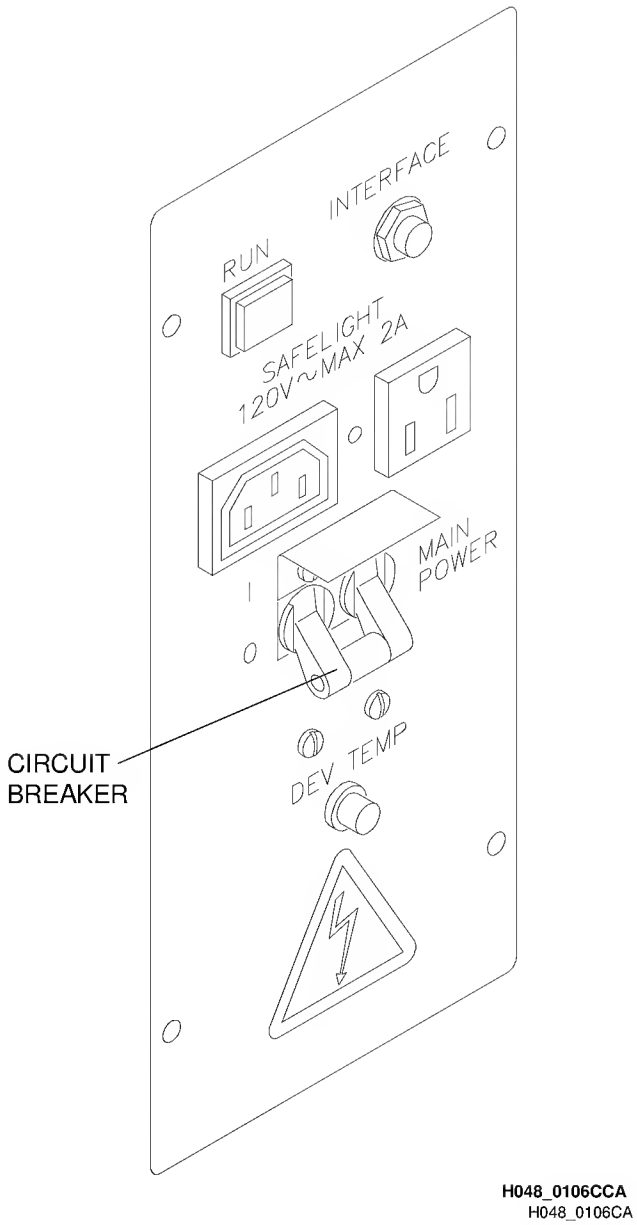

Figure 40 Control Panel of the Processor

Setting the Replenishment Rates

NOTE

Refer to the manufacturer's specifications for the film and chemicals being used, for operating temperatures and replenishment rates. The KODAK *RP* X-OMAT Processor Service Bulletin No. 30 is available from your Kodak Representative or Marketing Technical Group, Health Sciences Division, Eastman Kodak Company, Rochester, New York 14650.

NOTE

Contact a qualified operator, service personnel, or authorized dealer representative to perform the following adjustments.

[1] Remove the RECEIVING-END ACCESS PANEL and the DRIVE SIDE ACCESS PANEL from the processor. Run the REPLENISHMENT PUMP to purge air from the system.

[2] With the 2 GRADUATED CYLINDERS under the REPLENISHMENT CHECK TUBES, turn the VALVES on and press the "REPL" SWITCH. See Figure 39 on page 39, if necessary. Run the PUMP to purge air from the system.

[3] With the GRADUATED CYLINDER under the DEVELOPER CHECK TUBE, turn the VALVE on and press the "REPL" SWITCH for 13 seconds.

NOTE

This is the amount of time film, 14 inches in length, causes the replenishment pump to operate.

[4] Compare the average of 2 or more measurements with the film and chemical specifications of the manufacturer.

[5] If necessary, adjust the developer replenishment rate following the instructions on page 42.

[6] Repeat for FIXER REPLENISHMENT rate.

Adjusting the Replenishment Rate

CAUTION

Do **not** adjust the SETSCREW or LOCK NUT.

[1] Remove the outside PUMP COVER by loosening the 2 SCREWS on the top of the PUMP, and lifting the COVER off.

[2] Rotate the CRANK by hand to gain access to the ADJUSTING SCREW.

[3] Rotate the appropriate fixer or developer ADJUSTING SCREW to provide the correct replenishment rates.

[4] Install the PUMP COVER.

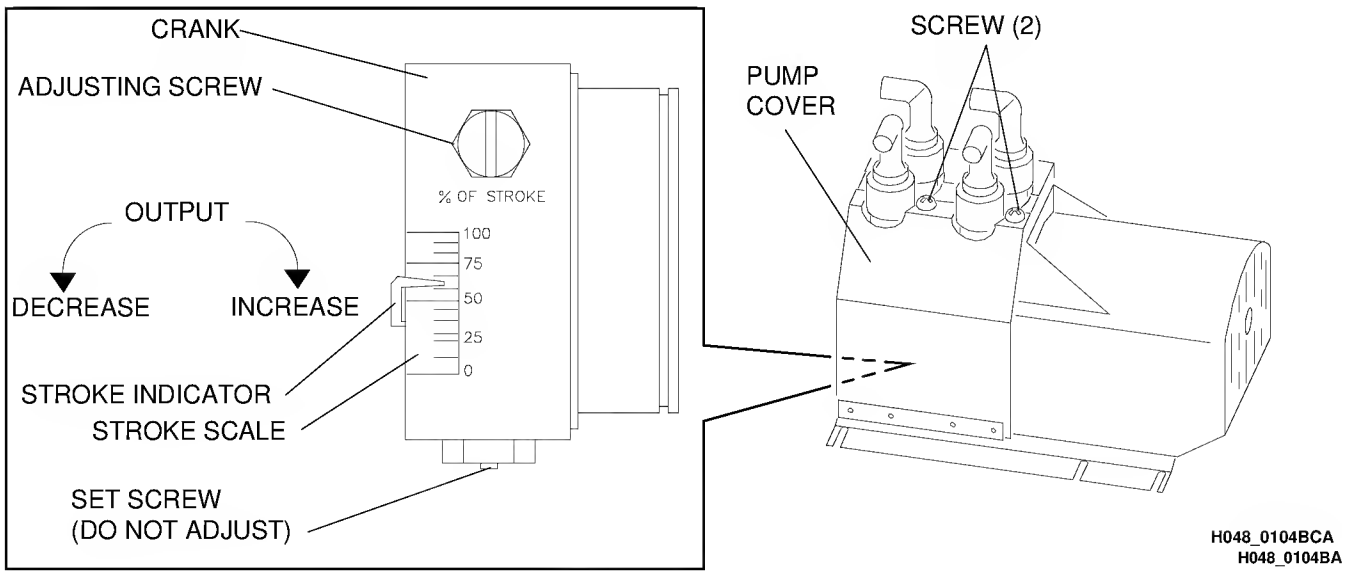

Figure 41 Setting the Replenishment Rate

Installing the Racks and Crossovers

[1] Carefully, install the RACKS. Use the SPLASH GUARD.

[2] Install the CROSSOVERS.

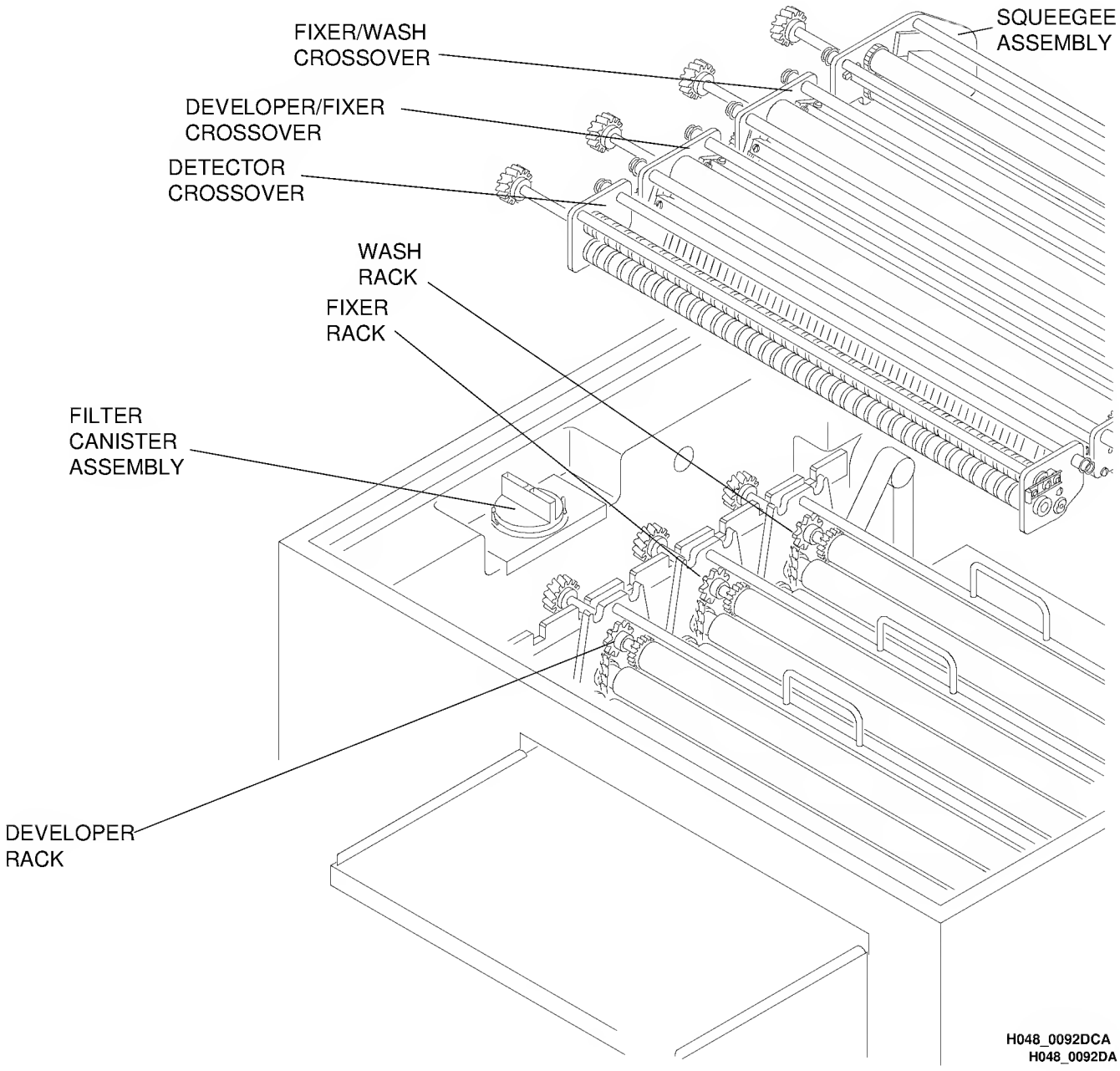

Figure 42 Installing the Racks and Crossovers

[3] Install the EVAPORATION COVERS.

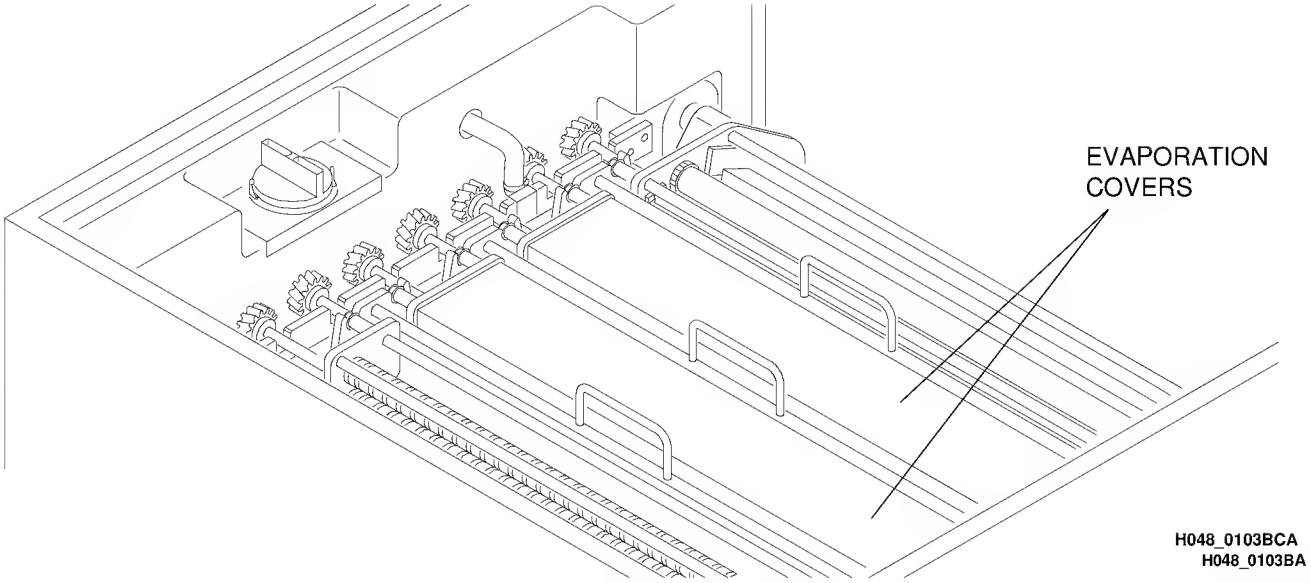

Figure 43 Installing the Evaporation Cover

Adjusting the Tension of the Dryer Belt

WARNING

Parts are moving within the processor. Keep hands and loose clothing out of the processor.

[1] With the processor operating, the DRYER TEMPERATURE CONTROL rotated to the full counter-clockwise ↶ position, and the dryer cool, adjust the tension of the DRYER BELT as follows:

[2] Loosen the LOCKING SCREW.

[3] Rotate the ADJUSTING SCREW KNOB to tighten the BELT until the ROLLERS just begin to rotate.

[4] Rotate the ADJUSTING SCREW KNOB an additional 1 rotation.

[5] Tighten the LOCKING SCREW.

[6] Tighten the ADJUSTING SCREW LOCK NUT.

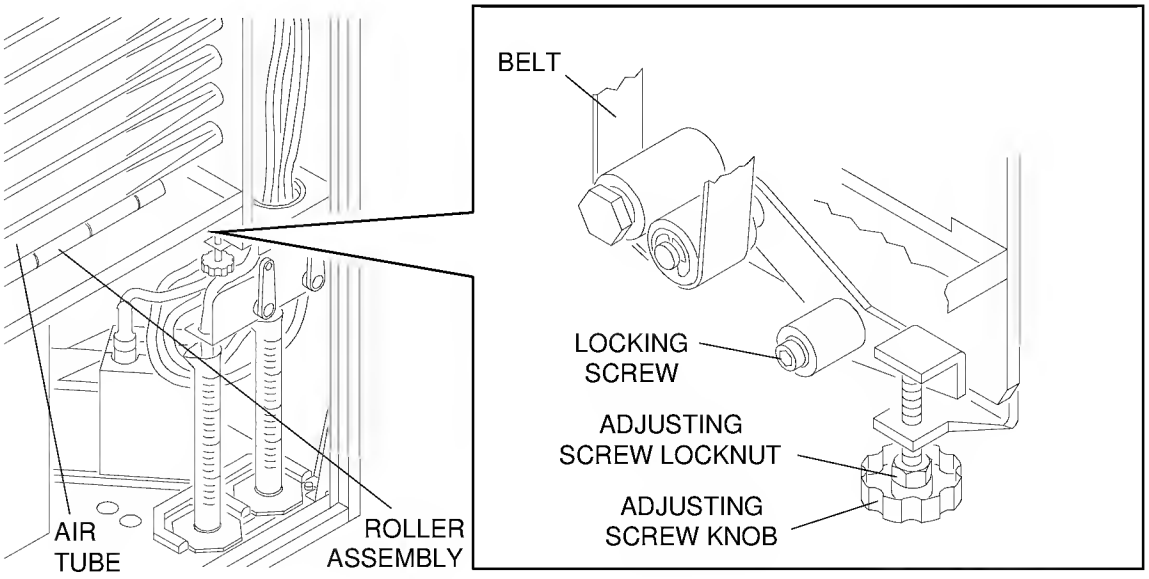

Figure 44 Locating the Dryer Belt and Adjuster

Installing the Panels and Covers

Install all PANELS and COVERS.

NOTE

When required by local code, install panel-locking devices. Parts and instructions are included in the PREPACK.

Setting the Dryer Temperature

[1] Unlock the DRYER TEMPERATURE CONTROL KNOB by rotating the LOCKING RING counter-clockwise ↶ approximately ¼ turn.

[2] Set the DRYER TEMPERATURE CONTROL KNOB to the minimum setting required to dry film.

[3] Lock the DRYER TEMPERATURE CONTROL KNOB by rotating the LOCKING RING clockwise ↷ approximately ¼ turn.

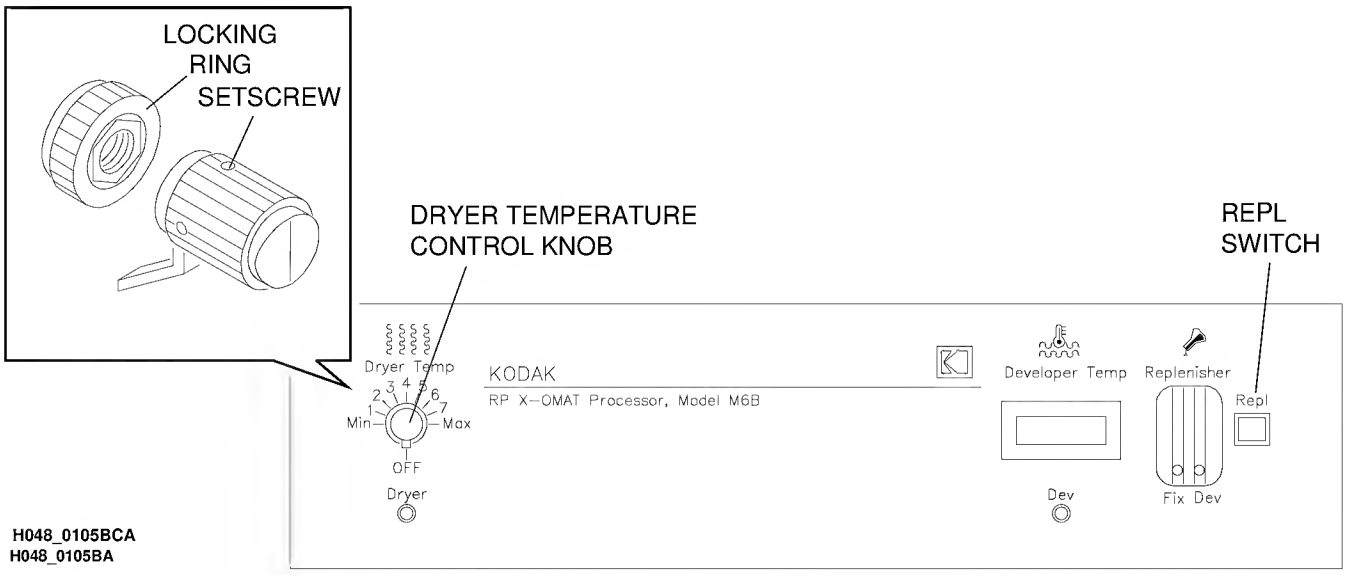

Figure 45 Adjusting the Dryer Temperature Control Knob

Checking the Developer Temperature

[1] When the DEVELOPER LAMP begins to flash, remove the TOP COVER.

[2] Insert a THERMOMETER of known accuracy into the DEVELOPER TANK.

[3] Install the TOP COVER.

[4] Operate the processor for 15 minutes to **stabilize** the temperature.

[5] Check that the temperature on the DEVELOPER TEMPERATURE METER is the same as on the THERMOMETER (35°C [95°F] set at the factory).

NOTE

See the Service Manual for the adjustment procedure.

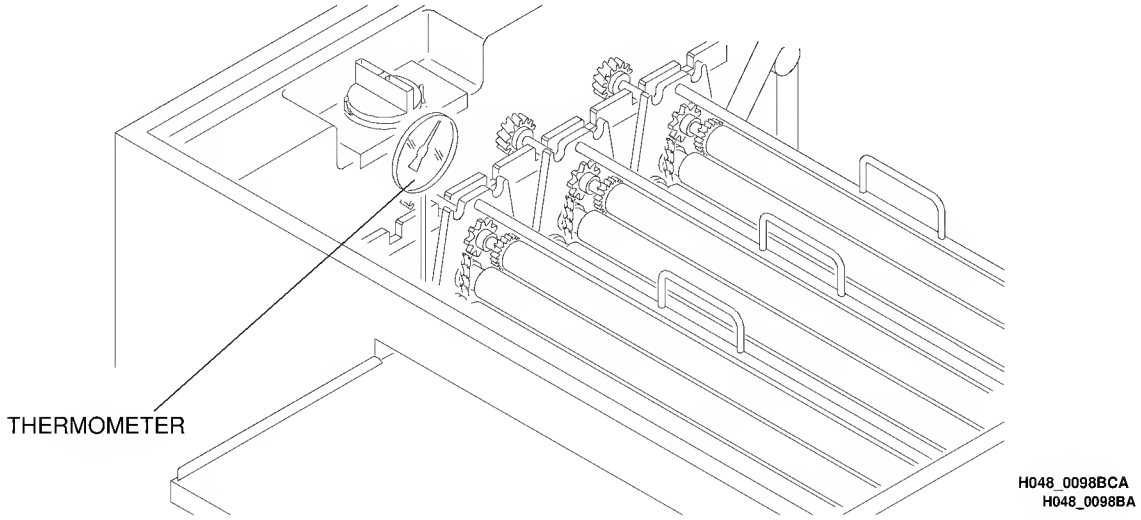

Figure 46 Placing the Thermometer

[6] Check that the following are installed:

- RACKS
- CROSSOVERS
- COVERS

[7] Check that the LIGHT-TIGHT GASKET is tight against the wall.

Checking the Film Transport

[1] Feed three 35 x 43 cm (14 x 17 in.) films into the processor. Check that the RACKS move the film through the processor correctly.

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Customer Equipment Services Division

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